

Dear Abigail

The idea of the petition is reasonable enough. Noise is disturbing. However the provisions should apply evenly to all noises in unsocial hours, and they should be applied in bands proportional to the loudness of the noise in decibels. I would propose that any legislation start by covering any noise nuisance above 50db, then when that is complete, move to 45-50db, then 40-45db and so on. I am sure this would be perceived as reasonable and could achieve widespread support.

Sincerely

Peter Harper

Head of Research and Innovation

CAT

Clerk to the Petitions committee

Dear Sir/Madam

In reference to the afore mentioned petition and consultation considering turning off wind farms that fully comply with ETSU 97 but are within 2km from property.

1: This petition would be illegal as ETSU 97 is the statutory noise limit (recently revised and found to be the best) .All wind farms have to comply with this far stricter limit than the World noise councils weak limits.

2: All power stations have issues ,here in rural Nottinghamshire the newly built Staythorpe Gas power station is causing considerable noise issues (With over 30,000 affected) and found to be far in excess of ETSU 97 ,proceedings are in action .

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3: Bradwell nuclear station until its recent closure had numerous noise complaints and could be heard echoing across the bay (affecting over 50,000).

4: If this petition was to be enforced All Power stations and national grid power lines(crackling) and (Noisy) substations including nuclear ,gas,coal & oil would be have to be closed. All power at night would stop.  
No hospitals, Water ,sewage,driving,nor street lights.

5: Airports exceed legal safeguards during daylight hours on a regular basis and are completely out of proportion to near silent wind farms (45db maximum). I myself live around 1000m from 5 x 125m turbines and have never heard them ,The saw mill and bypass the only noise concern , airports with jet engines exceeding 140db are a growing nuisance across the country.

6: **Salford university's detailed study found that Wind farms received 239** formal complaints over a **15** year period (an average of just 16 each year - all dealt with within etsu 97 ), for the whole of the UK, were made in respect of wind turbines. This compares with the national average of more than **300,000** per single year for noise complaints in general.

Why is indigenous ,clean wind being singled out? 0.000053 % of the total yearly noise issues recorded?

Road noise already massively exceeds the limits proposed.This petition could lead on too blackouts ,water shortages and road closures.

This petition is plainly ridiculous.


ETSU 97 is extremely strict and are far Superior to other loose ill defined and legally challengeable arbitrary levels.

Regards,

Bryan Norris

Ms Abigail Phillips  
Clerk to the Petitions Committee  
National Assembly for Wales  
Cardiff Bay  
CF99 1NA

Gofynnwch am / Please ask for: N Jones

 **01492 575230**

 **01492 575204**

 [regulatory.services@conwy.gov.uk](mailto:regulatory.services@conwy.gov.uk)

Ein Cyf / Our Ref:

Eich Cyf / Your Ref:

Dyddiad / Date: 28<sup>th</sup> September 2011

Dear Ms Phillips

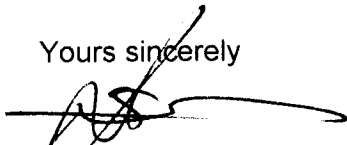
In reference to your consultation on the control of noise nuisance from wind turbines during anti-social hours, I would question the need for a statute such as proposed to achieve the desired outcomes.

I do not believe the evidence base is there to suggest that all turbines above 1-3MW within 2km of communities cause a problem during noise sensitive hours. If there was a concern that a proposed wind farm had the potential to cause such a disturbance, this could be controlled by planning conditions.

To have a blanket legislative obligation to shut down turbines during noise sensitive hours, irrespective of their effect on individuals or communities would reduce the capacity for energy generation unnecessarily.

Although I am happy for you to convey my views, I would not be able to present oral evidence to the Committee.

Yours sincerely



**Nick Jones**  
**Planning and Environmental Enforcement Manager**

Prif Switsfwrdd / Main Switchboard: 01492 574000

[www.conwy.gov.uk](http://www.conwy.gov.uk)

DX 24628 Conwy

Ni ddyldid cyflwyno dogfennau llys drwy ffacs

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Minigyf neu Ffôn Testun / Minicom or Text Phone: 01492 515892



29 September 2011

Abigail Phillips  
Clerk to the Petitions Committee  
National Assembly for Wales  
Cardiff Bay  
Cardiff  
CF99 1NA


t: 0303 444 5000  
f: 0303 444 5002  
e: [ipcenquiries@infrastructure.gsi.gov.uk](mailto:ipcenquiries@infrastructure.gsi.gov.uk)

*Dear Ms. Phillips,*

**Petition Regarding Wind Turbines and Noise Respite Periods**

Thank you for your email and letter dated 23 September 2011.

As the independent body appointed to make decisions in relation to the development of major infrastructure in England and Wales, it is critical that the Infrastructure Planning Commission (IPC) remains impartial. We cannot become directly engaged with policy related issues or comment on the merits of proposed schemes. Therefore, we are not in a position to express a view on the above petition.

*Yours sincerely*  


**Sir Michael Pitt**  
Chair

The IPC gives advice about applying for an order granting development consent or making representations about an application (or a proposed application). The IPC takes care to ensure that the advice we provide is accurate. This communication does not however constitute legal advice upon which you can rely and you should note that IPC lawyers are not covered by the compulsory professional indemnity insurance scheme. You should obtain your own legal advice and professional advice as required.

We are required by law to publish on our website a record of the advice we provide and to record on our website the name of the person or organisation who asked for the advice. We will however protect the privacy of any other personal information which you choose to share with us and we will not hold the information any longer than is necessary.

You should note that we have a Policy of Commitment to Openness and Transparency and you should not provide us with confidential or commercial information which you do not wish to be put in the public domain.

Dear Sarita, please accept this as a response on behalf of Rhondda Cynon Taf County Borough Council:

It is not considered appropriate to take a blanket approach to environmental issues arising from the development of windfarms. Issues such as noise should be considered on the basis of individual applications and their particular circumstances. Provided that the applicant has carried out the relevant noise assessment and this has been rigorously scrutinised by the planning authority, there should be sufficient information available to make a judgement. The planning application can then be decided with noise being considered along with the other material considerations.

It would be possible to attach a condition controlling noise to any planning permission granted. Alternatively, if it can be demonstrated that the noise levels are unacceptable, there is the potential for planning permission to be refused on that basis.

Many thanks  
Simon

*Simon Gale*  
*Service Director - Planning*  
*RCTCBC*

Sir/Ma,

1. At last a way to see how our council committee works and a way of seeing open cost's to the public! £1.000 plus spending details is more feasible and should be published it must also be made mandatory.

2. In regard to wind turbines in Wales I have particular knowledge in this area having worked for a wind company in the past. When I asked for some details at a open meeting with Welsh water head of Energy Mr Mike Pedley on the planed wind turbine near Swansea docks, no open evidence on the subject was **Not** forthcoming or in support.

3. As a member of the local area and public this was of concern to me, I feel we need to know all the facts required, on every wind turbine project in Wales, on shore and offshore. Due to working still within a group of companies that has an area of Wind turbine holdings I unable to send you any data. However if I can help in any other way please ask. Enclosed a paper to give you a understanding of my position and knowledge in this area.

Warm Regards  
James Cole.

Environmental Contractor

Sirs,

The problem with asking for evidence pertaining to this issue is that there is none. Several consultations have been called in the last ten years but no results have been published. When one is objecting, as we have, to a wind turbine being granted planning within the 'recommended distance' from a dwelling, there are only the manufacturer's claims re. noise available for reference. Once turbines are standing, there is no enforcement to support complaints about noise. It is the duty of our elected body to provide information about alternative power generators, before it endorses them wholesale.

Sally Learoyd

Sirs,

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Sally Learoyd



Dear Sirs,

I write to register my support for the above petition. I live in New Inn c. 2km from the Blaengwyn (Alltwalis) wind power generation installation. I can hear a noise from one corner within my home when the wind is blowing from the south. The noise is like a continuous high flying airplane. When I first heard this I thought something electrical had a fault but the room where the noise was heard did not have any electrical appliances apart from a light fitting and shaver point. On turning the power off at the mains the noise continued and was louder outside the house than in. It took me some time to discover it was from the turbines. This noise can be annoying but is not effecting the way I live in my home as it does in homes in Gwyddgrug and closer to the turbines.

I am very concerned that if further wind turbine developments take place closer to my home, such as those proposed for Mynydd Llanllwni (Bryn Llewellyn) and Mynnyddiau Rhos y Corn/Trebeddw (Brechfa East), the cumulative effect of a higher number of turbines closer to my home will increase the noise experienced by myself and my neighbours in New Inn.

I am especially concerned to hear from people who currently experience a high level of nuisance that the turbine operators are slow or unwilling to rectify faults that cause further nuisance such as screeching/grinding/etc., of faulty mechanisms. Also of concern is the apparent lack of action from Carmarthenshire County Council dealing with these issues and of adequate monitoring in a complaint situation.

Most of Europe does not allow turbines to be erected within two kilometres of habitation and a similar rule would go some way towards preventing noise being a nuisance. I would also show a willingness for the Senedd to listen and act on the concerns of the people they represent.

Yours faithfully,  
Vivienne Kincaid

Clerk to the Petitions Committee  
National Assembly for Wales  
Cardiff Bay  
Cardiff CF99 1NA

25<sup>th</sup> October 2011

Attn: Abigail Phillips/ Please forward my submission to the Petitions Committee

Dear Sirs

**Ref: P-04-329. Control of noise nuisance from wind turbines**

Before we moved from London to Gwyddgrug we asked a question on our local authority search before purchasing our property which related to wind turbines and were told that none had been approved. Despite this 10 extremely large wind turbines have been erected on the hillside very close to our property.

We live very close to wind turbines in our village and have found the noise to be very disturbing. My husband suffers with Multiple Sclerosis and has found the noise from the turbines to be very detrimental to his health:

- He finds it very difficult if not impossible to sleep at night.
- There is an ongoing humming noise which we can actually hear even when they are switched off!
- The turbines have actually exacerbated his depression and the lack of sleep is certainly not helping.
- If the growth rate of the wind turbines continues unabated we believe that many people will suffer health problems. There needs to be a definitive exercise in finding out the health effects of these wind turbines not just the financial gain for the few who have them on their land!
- People should not have to contend with the constant noise and disruption of the turbines even when they are switched off!
- Living in a rural environment should be better for your health, nor worse

We believe that our lives should not be disrupted by the noise and disturbance of the wind turbines and that living in a rural community should be equal to those living in large cities and towns. Also, when allowing permission for these enormous turbines to be erected the lives and health of those living nearby should be taken into account. The distance to dwellings should definitely be increased.

I am happy to be contacted for further information if needed.

Yours faithfully  
Bernie and Paul Blackwell

Clerk to the petitions Committee  
National Assembly for Wales  
Cardiff Bay  
Cardiff  
CF99 1NA

24-10-2011

Dear Sirs;

Ref. **P-04-329. Control of noise nuisance from wind turbines**

Following our experience of noise nuisance from Alltwalis Wind Farm in the last two years, we are most grateful to Mr Foster for taking this problem seriously for further consultation. It is imperative that the Welsh Assembly act upon the noise nuisance, not only for us at Gwyddgrug village but for the whole of Wales.

There have been many nights whereby we have been affected by noise even though we live approximately 1km away from them. Unfortunately they are always much worse at night resulting in loss of sleep. For someone who was born in Gwyddgrug village, and have known since I was a child that any loud noise from the mountain nearby carries with an echo effect into the dip of the valley that we live in. Carmarthen County Council were made aware by myself and others that the noise would be a problem owing to the dip to the village. Now we are able to say; we told you so. For all the technology and theoretical evidence this does not compare with the practical evidence that people have.

Unfortunately the noise nuisance has been much worse than we ever thought. It relates to an aeroplane that stays over the house at night, to humming or whining when the wind changes direction towards the village. We realise that the ETSU guidelines incorporated by the Wind farm companies and the government have not been reviewed since the 1990 decade. However the wind turbines are built much higher than previously. Common sense prevails that higher the turbines are the further the noise will carry, hence the problem in this village which so many of us are victims. This is totally unacceptable, unfair, causing sleep deprivation, anxiety, depression and enormous stress for so many living even closer than we do.

Needless to say how we feel, totally let down by our local authority, the Welsh Assembly as we all pay our community tax annually. Where is our protection? Why has someone like James Foster had to come to highlight the problem? From meeting upon meetings there has been months of monitoring at different homes. Months went by before they found out that T9 needed a new gearbox as they blamed that for the noise. The Local Authority did not demand that T9 was turned off until the gearbox was replaced. In the last month I have reported T5 to the Local Authority & Statkraft as I heard a screeching noise whilst walking the right of way area near to the turbines. Within 2 weeks I was informed that this is a longstanding problem which needs assessing again by Siemens (manufacturing company). The quality of the material for the turbines has been very poor i.e. from the blades themselves, paint peeling, gearbox, all within the span of two years. Who is not doing their work properly? As everyone states, "how ridiculous when this is a project costing millions".

With this sort of history it is vital that the laws for protecting the people in Wales needs changing now. They could reduce health risks & enable people in rural areas to live within a quieter environment.

We strongly feel that members of the Welsh Government should visit Gwyddgrug village and have the decency to speak to those who have been suffering. It is well overdue.

Yours sincerely

Mr. E.J. & Mrs E.O. Davies

Attention of Abigail Phillipps Clerk to the Petitions Committee

Please forward my submission to the petitions committee

Dear Sirs,

Ref. P-04-329.

Control of noise nuisance from wind turbines

As the A485 runs directly in front of my house, the constant roar of heavy lorries drowns out the wind turbine drone, but it certainly can be heard (in the rare traffic-less moments), and equally certainly detracts from the rural peace of Gwyddgrug, More -many more- turbines nearer to the heart of Gwyddgrug will certainly throw out sufficient noise down the valley to blight life here.

Yours sincerely,

Margaret Lawn

## **Petition P-04-329 Control of Noise Nuisance from wind turbines**

**Grŵp Blaengwen - (Gwyddgrug, Carmarthenshire) –**

### **Evidence to Petitions Committee, Welsh Assembly, October 2011.**

As a result of experience in Gwyddgrug, near the wind turbines now known as Alltwalis windfarm, we believe there is need for urgent action on the matter of noise from wind turbines. **Current regulation is inadequate to protect individuals and households from intrusion by wind turbine noise disturbing their sleep, sometimes for several consecutive nights.** We believe industrial wind turbines near homes should be fitted with microchips so that they can easily be turned off when weather conditions indicate their noise is likely to disturb sleep. It doesn't need saying that sleep deprivation is a health and safety matter, but we feel obliged to keep saying it. Some of those who suffer sleep deprivation are agricultural contractors dealing with potentially dangerous machines, and others have to drive for their work, sometimes long distances.

We covered this matter fully in our recent submission on the need for a review of TAN 8, to the Environment and Sustainability Committee. We wrote that ***“wind turbine noise is the most obvious matter on which Welsh wind turbine policy should depart from UK policy, unless or until that is revised by Parliament.”***

When the Statkraft wind turbines above Gwyddgrug came before Carmarthenshire Planning in March 2007, there were current press reports of noise from wind turbines driving people from their homes. The most prominent of these cases, that of the Davies family from Lincolnshire, is still unsettled and due back in the High Court in November 2011.

In 2007, local people were aware that there were also noise problems from three wind turbines at Blaenbowi, Carmarthenshire - smaller than the 10 proposed for Gwyddgrug/Alltwalis. This is mentioned in the Renewable Energy Foundation's account of its FOI request on the Salford data. The REF refers to a report for the DTI by the Hayes Mackenzie Partnership, *The measurement of low frequency noise at 3 UK windfarms, understood to be Askam, Bears Down and Blaenbowi*: where noise was found to be in excess of that predicted by ETSU-R-97. It is referred to in statements from Gwen Burkehardt in *Location, Location, Location, an investigation into windfarms and noise by the Noise Association*; in Gwen Burkehardt's letters to the Western Mail, following her family's moving house to Newquay, and in Dr Amanda Harry's report into windfarms and health.

Also in 2007, local people anxious about the possibility of noise nuisance from wind turbines were assured that planning conditions based on the ETSU-R-97 method of predicting the noise would protect them from such intrusion. **This turns out not to be the case**, any more than in those cases mentioned above.

The turbines now known as Alltwalis wind farm became operational in October 2009, and some local people began having their sleep disturbed almost immediately, according to weather conditions. Many complained to Carmarthenshire County Council's environmental health department and some have kept logs of their disturbance since then.

At meetings in Gwyddgrug between Statkraft, the developers/owners of the turbines, complainants, council officers and elected representatives, people were told that the quickest way of solving the problem was for them to 'host' noise monitors at their homes. Some people have done this on and off for 18 months, and some turbines were modified in that time. However, it has only been by only shutting down particular turbines, according to weather conditions, that the most severely affected households have had relief. Despite this, Statkraft is now less likely or unlikely to shut down turbines on notification, and both the company and Carmarthenshire Council say the only way forward for complainants is by more monitoring. Some are unwilling to 'host' more monitoring, which itself is problematic and after two years, hasn't led to a solution.

This situation shows us that the ETSU-R-97 method of predicting likely noise from wind turbines isn't adequate to protect all turbine neighbours. And ETSU-R-97 does not fulfil another basic aim: this method of assessing likely noise HAS 'added unduly to the costs and administrative burdens' on Carmarthenshire. Taxpayers, not developers, meet these costs. The Petitions and Environment Committees may wish to hear from our AM Rhodri Glyn Thomas about evidence to him of noise effects on wind turbine neighbours mainly in Gwyddgrug, and of meetings at which Statkraft was represented. Carmarthenshire officers have extensive evidence from local people and meet with Statkraft. Our County Councillor Linda Evans has asked repeatedly for the turbines to be closed down at night.

We visited Statkraft's station at Cwm Rheidol, Ceredigion from where the turbines are partially monitored and were told, in July 2010, that if the problem persisted, Statkraft would install microchips to monitor weather conditions and, particularly at night, automatically turn off any turbine likely to cause noise interference with peoples' sleep. Even at the time, though, Statkraft's noise engineers were preparing a report which took no account of people's actual experience, and made no attempt to match detailed logs of nuisance against weather conditions. This year we've written to both the current Welsh Minister and the Committee for the Environment and Planning that *".... local people in Gwyddgrug, or others who have come to know what is happening, can have no confidence in the planning, investigative or remedial procedures for wind turbine noise."*

This is a complex matter whose solution is in at least two parts:

i) Operation of the current Statkraft turbines above Gwyddgrug should be moderated to protect the sleep and amenity of all turbine neighbours. Closing down the turbines at night according to the petition, or according to weather conditions would help to achieve this. **We ask the Petitions and/or E&S committees seriously to consider asking Statkraft to answer questions**

**on this matter** and we have questions we'd like the committees to ask Statkraft alongside their own.

ii) The planning, investigative and remedial procedures to protect wind turbine neighbours from noise intrusion should urgently be improved, in the first instance by Assembly Planners. There should be a bigger distance or buffer zone between industrial turbines and homes, at least as recommended in Carmarthenshire's current draft Local Development Plan: and all new turbines should be fitted with microchips to enable them to be closed down according to a regime agreed between the developers and the local planning authority. This could include closing the turbines at night, according to the detail in this petition, or to a formula agreed with developers as a mandatory planning condition.

Our recent submission to the Environment and Sustainability committee, on the need for a review of and amendments to TAN 8, included

- i) A map showing the existing Statkraft/ Alltwalis turbines, households suffering noise disturbance, and the 28 proposed FCW/RWE Brechfa Forest West turbines. If approved, these turbines would adjoin the Statkraft site and almost quadruple the number of turbines to which households are exposed.
- ii) A copy of a submission made to Carmarthenshire County Council in relation to the application by RES for wind turbines above nearby Llanllwni. Several of those households most severely affected by the Statkraft turbines are equidistant from the RES proposed turbines.
- iii) Noise statements made by group members, showing some of the problems. The most recent, from this summer, show that after more than 18 months, the problems were not sorted. There was another difficult week at the end of September into October, and the problems have now persisted for two years.

We have not attached those documents here because we understand Petition P-04-329 is also to go before the E&S Committee. If anyone reading this wishes to see those documents, or if we can assist deliberations in any way, please contact **Grŵp Blaengwen, c/o Janet Dubé, Abernawmor, Gwyddgrug, Carmarthenshire, SA39 9BA, 01559 384678 07805 955539**

Most of those suffering from noise intrusion are not active members of this group, and not all members of the group suffer noise intrusion. Carmarthenshire County Council has the best record of noise complaints starting in 2009. The matters of disturbance, complaint, logging and monitoring are complex, and the fact that some people stopped complaining is not because the problems are solved. It is one of our criticisms of the investigative process that neither the Council nor the developers has a full and effective log of the complaint and investigation process, and we would like this to be remedied. Some local people will write independently to the committees with their own experience.



Clerk to the Petitions Committee  
National Assembly for Wales  
Cardiff Bay  
Cardiff  
CF99 1NA

30.10.2011

Dear Sirs

**Re: Ref. P-04-329 Control of noise nuisance from wind turbines.**

We, as a family, live within 815 metres of the Alltwalis Wind Farm in Gwyddgrug. Since this wind farm became operational in 2009 we have suffered terribly; noise is totally unbearable at times keeping us awake at night, unbearable outside some days that my husband just cannot work on the farm & has resulted in us having to leave the property for respite. Our son has spent more nights sleeping on the sofa in the lounge (middle room of the house) than in his bedroom over the last 2 years due to the noise being too unbearable for him to sleep in his bedroom. We have totally lost the enjoyment of our property as a result of this wind farm. Furthermore this has caused us an enormous amount of stress and has impacted on our health.

Further to our complaints regarding the noise in 2009, monitors were installed both inside and outside our property for 13 months by Statkraft. During this time we collected a huge amount of data, often up during the early hours of the morning switching the monitor on and telephoning the control room. Eventually, a problem was detected on the gearbox of Turbine 9 (T9) which needed replacing. To our dismay, T9 remained operational even though this problem was identified and it took months to replace. It was turned off during 11.00 p.m. and 7.00 a.m. but only following our telephone call to the control room to log a complaint each time.

Unfortunately, the replacing of the gearbox in T9 did not resolve the noise problem at all. Turbines are as noisy today as they have been from day one; tonal noises evident, whinnying noises, noise from the blades as they cut through the air. The background noise at Gellifelen was extremely quiet, but now its like living next door to a factory.

We are at the end of our tether, in a situation where it is unbearable for us to live in our home. We are Welsh people (born & brought up in Wales), we have worked hard all our lives & have been let down badly by our Local Authority & the Welsh Government. Neither are doing anything to help us. We requested a meeting with Jane Davidson, in her role as Minister for Environment via Rhodri Glyn Thomas, AM, as well as writing & contacting her diary secretary ourselves. She refused to meet with us but did meet with Statkraft. This infuriated us even further that members of the Welsh Government were willing to meet with Statkraft (Norwegian Company) and not willing to give their time to listen to the people of Wales who are suffering & have been treated with contempt by Statkraft.

I have written to the First Minister, Carwyn Jones, requesting a meeting regarding our situation. The First Minister did not reply but did forward our letter to the Sustainable Energy & Industry. Their advice to us was:

**"In view of the irregular, condition dependent, nature of the noise disturbances we would urge you to work with Carmarthenshire Council so that measurements can be recorded at specific times with a view to addressing the issues."**

We have tried to work with Carmarthenshire County Council (CCC) but unfortunately they only work between the hours of 9.00 a.m. to 5.00 p.m. They do not offer an "out of hours service". They have on occasions arranged a planned out of hours visit, but these visits have only been offered to us on a quiet night when there is no noise to complain about. We, as well as many other residents, feel extremely frustrated by their current method of working and have told them repeatedly that it's not fit for purpose. We need them to visit when we are unable to sleep, unable to stay at our property. Having suffered sleep deprivation for a few nights running due to noise pollution from the wind farm and members of CCC offering to visit a few nights after when things have quietened down adds to the frustration of the whole situation. Due to their current system not being fit for purpose I have asked CCC whether they would be willing to install a monitor at our home. I would then at least be able to collect data & have proof of the level of noise experienced at our property being that they are not contactable at evenings and weekends, but they have continuously refused. I have also tried via our councillor, they also refused her.

There is **NO** protection for the people of Wales from noise from wind farms. We as well as many other residents feel totally on our own, abandoned by our Local Authority and the Welsh Government. We thank Mr. Foster & are extremely grateful to him for submitting this petition highlighting the problems experienced by the people of Gwyddgrug. Getting turbines switched off at night would be an enormous relief for us.

We have had another terrible weekend suffering from the noise, last weekend was the same. I contacted the Control Room at Rheidol on Friday, (21.10.2011) only to be told "nothing we can do but we'll log your call". This Friday (28.10.2011) the noise was terribly bad once more and I contacted Rob Fellows, PR for Statkraft this time as I knew there was no way we would be able to sleep at our property. Rob Fellows advised me to follow protocol - telephone CCC. Of course I was not able to get hold of anyone from CCC it was the weekend!!!

I do hope that members of the petitions committee will visit us at Gwyddgrug, this is well overdue as we have been suffering for far too long.

Your sincerely

JHM & CL Harris

Clerc i'r Bwyllgor Deisebau  
Cynulliad Genedlaethol Cymru  
Bae Caerdydd  
CF99 1NA

**Ar gyfer sylw Abigail Phillips (Danfonwch fy nghais at y Bwyllgor Deisbau os gwelwch yn dda.)**

**For the attention of Abigail Phillips (Please forward this submission to the Petitions Committee)  
(English Translation Below)**

Dyddiad 31/10/11

Annwyl Syr/Fadam

Cyf. P-04-329. Rheolaeth Niwsans Sŵn o Dwrbeiniau Gwynt

Diolchwn i Mr William Powell as am ei lythr diweddar at y "Carmarthen Journal" yn gofyn am dystiolaeth ynglyn a Niwsans Sŵn Fferm Gwynt (rhif fel uwchben). Hoffwn ni fel grwp o wirfoddolwyr lleol, gynnig ein safbwyntiau i'ch ystyried.

Trefnwyd GALAR gan unigolion lleol yng ngogledd Sir Gaerfyrddin a oeddynt yn poeni am y datelygiad dirwyrstr o dechnoleg gwynt ar dir sydd yn gafn carbon mewn termau ecolegol. Credwn hefyd fod amrywiaeth biolegol ein ardal wedi erydu gan orblannu coed a ffermio un-ddiwilliad, i'r pwynt ble mae rhywogaethau cyffredin mewn perygl. Ers i ni ymaelodi rhodyn wedi cysylltu gydag unigolion a grŵpiau eraill drwy Gymru mewn ymdrech i sicrhau cynrhychiolaeth dros ein achosion ar lefelau cynghorau sir, Llywodraeth y gynulliad Gymreig a Llywodraeth san steffan. Er hynny, yn Sir Gâr mae'n aelodau gwreiddiol ac ar eu rhan nhw codwn y pwyntain canlynol:

Mae nifer o'n aelodau wedi buddsoddi mewn lletyau gwyliau ar gyfer gwasanaethu anghenion ymwelwyr i'r cyfleusterau eang a phoblogiadd yng ngogledd Sir Gaerfyrddin ac i weithgareddau gweldig eraill fel cerdded, marchogaeth a gwilio adar. Hefyd mae cryn dipyn o bobl yn yr ardal sydd yn ystyried busnesau gwely a brecwast, gwersyllfa ac ati. Byddent i gyd yn croesawu seibiant fel awgrymir yn y deiseb oherwydd mae rhain yn cynnwys mwyafrif yr amser y byddai'r cwsmeriaid yn aros yn y lletyau.

Yr ydym yn byw yng nghyfnod y rhyngryd; mae pobl yn arfer darllen adolygiadau am rob math o gynnwrch cyn prynu. Mae hyn yn fwy addas i letyau gwyliau na busnesau eraill, o achos mae'r gwyliau wedi trfnu ac mae teuluoedd ac unigolion yn disgwyl bodlonrwydd. Byddai lletyau gydag adolygiadau gwael ar safleoedd y we, sy'ncwyno am sŵn, yn niweidio y busnes a'r ardal lleol hefyd.

"Tawel" ydy ansoddair cyffredin Ynglyn a llety gwyliau yng nghefn yr wald; twristiaeth fydd carreg gornel economeg Sir Gaerfyrddin yn y Dyfodol wedi cefnogi gan UDP a daspar-LDP cyngor y sir. Os nad yw'r mesur call ac angenrheidiol yn cael ei gwblhau, bydd economeg y sir yn dioddef yn y Dyfodol.

Yn y gorffennol, honnod gwleidyddwyr a gwrthwynebwyr y mesur iechyd hwn fod pobl yn dod yn afer i boendod sŵn nid oes rhaid i ymwelwyr i Gymru ddod yn afer – meant yn pleidleisio efo eu

llyfrau seic. Ar ôl ychydig o ddyddiau mewn profiad annerbyniol ni fyddant am ddychwelyd. Nid oes gorfodaeth i ddod yn ol. O safbwynt y trigolion, ni ffyd y dewis hwn. Mae'r mesur iechyd yn bwysig iawn iddynt ac mae'r Llywodraeth Cymru yn gallo cynnig cymorth. Mae preswylwyr Gwyddgrug yn dal igwno i'r adran iechyd amgrycheddol Sir Gaerfyrddin am sefydliad Alltwalis – mae hyn yn profi bod pobl ddim yn dod yn arfer i'r sŵn. Onibai i ddeddfwriaeth rhesymol yn cael ei chyflawni am hyn a dapar – sefydliadau eraill bydd y broblem iechyd yn parhau. Credwn ni fod y mesurau wedi awgrymu yn y deiseb yn fwy na theg a goeynnwn i'r bwyllgor deisebau am eu hargymell i'r Llywodraeth Cymru ar gyfer Deddfwriaeth

Yr eiddoch yn gywir

André Jacob

Cadeirydd

Pat Shepherd

Ysgrifennyddes

Sylvia Maskelyne

Trysorydd

Ar ran aelodau GALAR

31 October 2011

Dear Sirs,

**Ref. P-04-329 Control of noise nuisance from wind turbines.**

We thank Mr. William Powell AM for his recent letter to the Carmarthen Journal asking for evidence with regard to the Wind Farm Noise Nuisance , (number as above). We, as a group of community volunteers would like the committee to take our views into consideration.

GALAR was organised by individuals local to North Carmarthenshire who were concerned about the unrestrained development of wind technology on lands that are primarily carbon sink in ecological terms. We also believe by mass over foresting, and monoculture farming, the biodiversity of our area has been eroded to the point where once common species are at risk. Since we started we have linked to other individuals and groups throughout Wales, in an effort to have our concerns represented at County Council, Welsh Assembly Government and Westminster Government levels. However, our core membership is in Carmarthenshire, and it is to their concerns the following points are raised.

Many of our members have invested heavily in holiday accommodation, to service the needs of visitors to both the extensive and well regarded cycling facilities in North Carmarthenshire, and other country activities, such as walking, bird watching and equestrian activities. We also have a substantial amount of people in the area, (members and non-members), who are considering involvement, from bed and breakfast, to campsite and bunkhouse facilities. All these people would welcome the respite periods suggested in the petition, because it covers the majority of the time period their customers would be on the holiday let premises.

We live in the age of the Internet, people are used to reading reviews of all products, prior to purchase. This is much more applicable to holiday accommodation than other products, simply because holidays are planned and carry expectations of the families and individuals involved. Holiday lets, having bad reviews on websites, which complain of noise, would not only blight the premises involved, but the local area as well.

“Peaceful”, is the most heavily used adjective, applied to holiday accommodation in the countryside, tourism is the cornerstone of the future economy in Carmarthenshire, supported by both the UDP and proposed LDP of Carmarthenshire County Council. Not to pursue this sensible and necessary measure will be contrary to the future financial well being of the county.

Politicians, in the past, and opponents of this health measure, have claimed that this is a noise nuisance that people will get used to. This is something visitors to Wales do not have to get used to, they can vote with their cheque books. A few days exposure to an unpleasant experience will not convince them that repeat doses might make it bearable. There is no compulsion for return visits.

Residents, on the other hand, do not have this option. This health measure is extremely important to them, and is within the power of the Welsh Government to offer relief. The fact that the residents of Gwyddgrug are still complaining to the Environmental Health Department at Carmarthen County Council with regard to the Alltwalis installation, is proof, if proof were needed, that people do not get used to the noise. Unless some reasonable legislation is enacted on this matter, and other Wind Turbine Installations in planning, this unresolved health issue will continue. We feel the measures asked for in the petition are more than fair and ask the Petitions Committee to recommend them to the Welsh Assembly Government for action.

Yours Faithfully

André Jacob

Pat Shepherd

Sylvia Maskelyne

Chair

Secretary

Treasurer

On behalf of the members of Galar

Attention of Abigail Phillips Clerk to the Petitions Committee  
Please forward my submission to the Petitions Committee

Dear Sirs

Ref. P-04-329. Control of nuisance from wind turbines

I am writing as a resident of Gwyddgrug where we are affected by the noise of the turbines. My husband is a poor sleeper and is unable to sleep when he hears the turbines. I am aware that other residents here are affected by the noise too. We have every sympathy for them as we feel that this is detrimental to health and a nuisance that we have had imposed on us. Many residents expressed their concerns at every stage of the planning consultation processes but were ignored in a cavalier fashion.

If the new laws are enacted it will reduce the health risks to people and would demonstrate that devolved powers can be used to benefit minority communities.

Yours faithfully

Sally Ballamy

FAO Abigail Phillips, Clerk to the Petitions Committee  
Please forward this submission to the Petitions Committee

Dear Sirs,

Ref P-04-329 Control of noise nuisance from wind turbines

I write as someone who lives near an existing and planned new windfarms and am very concerned about noise levels from windfarms. We live 1.8km from the Alltwalis windfarm (110m turbines). We find the noise from this windfarm very noticeable and occasionally obtrusive. The Brechfa west windfarm will be less than 1km from our house and will have higher turbines (140m). We are extremely worried about the impact of this development on our health and well-being. Given the level of noise from the Alltwalis windfarm it seems very likely that the noise from the Brechfa west windfarm will be highly obtrusive and disruptive and we have serious concerns about the likely effects in terms of sleep deprivation and other health impacts.

We believe that legislation is necessary to protect the health and well-being of ourselves and all those people living in tan-8 areas. It would be crucial that such legislation apply to all wind farm developments planned in Wales to avoid the possibility that larger developments avoid such laws through consideration in Westminster by the IPC.

It is very noticeable how much the noise from turbines varies according to wind and weather conditions and we have concerns that noise impact assessments carried out by windfarm companies are not be sufficiently robust. We therefore believe that legislation concerning minimum distances from dwellings and maximum turbine heights is the only way to ensure that adverse health impacts are avoided. Current UK guidelines on this are woefully inadequate. For example the Academy of Medicine in Paris recommends that for larger turbines 1 mile should be the minimum distance\*. Based on our experience of the Alltwalis windfarm we believe that the minimum distance for turbines of over 100m from dwellings should be at least 2 km.

Yours Faithfully  
Gus Hellier

\*See 'Location, Location, Location and investigation into wind farms and noise by The Noise Association' 2006





## **P-04-329 Control of noise nuisance from wind turbines**

We call upon the National Assembly for Wales to urge the Welsh Government to pass a statute controlling the noise nuisance from wind turbines during anti-social hours. We ask for the implementation of respite periods during which time turbines would be switched off.

Noise respite periods are common in public health legislation. They are called for by the World Health Organisation in their Community Noise report; and are currently implemented in the U.K. on airport operations, construction sites and factories and other evening and overnight noise nuisance.

We ask that this applies to turbines above 1.3 MW, and that respite periods be between 18.00Hrs to 06.00Hrs for turbines within 1.5 Km of individual residences; and 22.00Hrs to 06.00 Hrs for turbines within 2Km of communities. Authorities within Wales determining applications under 50MW Plate Capacity, and the Infrastructure Planning Commission determining those over 50MW should make developers aware of this Public Health restriction which may affect individual turbines.

## **Additional Information provided by the Petitioner**

In addition to human health, the measure would also protect nocturnal creatures, bats, owls, etc. Jonathan Edwards MP has called for a measure such as this. Rhodri Glyn Thomas AM as called for a measure similar to this. This would not affect, or be affected by TAN 8, because TAN 8 does not deal with health implications of turbines. Also it only requires turbine plate capacities as a value, and not the efficacy of the turbines themselves. Wales has a long history of neglect of Health and Safety issues, leading to large parts of the community having restricted lives. During development, the hearing of the young should not be left to chance, and until substantial and medically accepted research points to a relaxation of the times and distances set out in this petition, we should err on the side of caution.

**This submission has been prepared by the Hayes McKenzie Partnership Ltd. who are Acoustic Consultants with over 20 years experience of noise associated with the operation of wind turbines. The Company have had an office based in the Machynlleth area for 20 years and have a client base which extends through the UK, Europe, North America, Australia, New Zealand and Asia.**

This submission is in response to the petition *P-04-329 Control of noise nuisance from wind turbines*.

The issue of nuisance is dealt with within existing legislation and as such, this petition is therefore not needed.

The issue of nuisance is considered within the Environmental Protection Act 1990<sup>1</sup> at Part III: Statutory Nuisances and Clean Air: s.79 – 85. The provisions within the Act are sufficient to control any pollutant, including noise, such that statutory nuisance does not occur. Therefore, current legislation is sufficient to control noise at any wind farm in Wales and England.

This position is supported by the DEFRA Report<sup>2</sup>, which provided the following conclusions:

*The key elements of this report are as follows:*

- *Planning & Statutory Nuisance regimes are separate; they do not substitute for each other and work in parallel.*
- *Planning permission does not authorise any subsequent Statutory Nuisance but can change the character of a locality, so something which might prior to a development have been a nuisance, no longer is.*

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<sup>1</sup> <http://www.legislation.gov.uk/ukpga/1990/43/part/III>

<sup>2</sup> Wind Farm Noise Statutory Nuisance Compliant Methodology: Report Prepared for Defra: Contract No. NANR 277

<http://randd.defra.gov.uk/Document.aspx?Document=NANR277final110620.pdf>

- *Compliance with planning controls can avoid Statutory Nuisance but does not provide an automatic defence against the normal test of statutory nuisance. Therefore reasonable steps should be made to investigate complaints about alleged Statutory Nuisance from a wind farm.*
- *Best Practical Means (BPM) is not relevant to the question of whether Statutory Nuisance exists, but can be important in deciding what an abatement notice requires.*
- *There are particular features of wind farm noise that need to be borne in mind when investigating complaints*
- *There is research that indicates that wind farm noise can be more disturbing than "ordinary" industrial or transportation noise.*
- *Wind farm noise complaint investigation is not easy and needs careful planning, including correlation with meteorological conditions and the operation of the wind farm.*
- *This document contains up to date case law to help in any assessment of Statutory Nuisance.*
- *Statutory nuisance can provide a safety net for planning decisions on wind farm noise, but may not be able to achieve the same level of protection.*

*This report should assist with all these points.*

The suggestion that any wind turbine over a certain generating capacity should be controlled based upon its name plate generating capacity and its location relative to a neighbouring property will result in a significant reduction in generating capacity and, as will be demonstrated, result in the loss of generation which is not required by such a blanket ban on wind turbine operation.

The argument put forward within the petition that this is a public health issue and therefore one should err on the side of caution. We consider that the levels associated with the operation of wind turbines are not a

public health issue per se. However, the change in the environment associated with the introduction of wind turbines may be considered adverse by some neighbours to a development. This is a subjective issue and not one that relates to objective analysis of the evidence. As a consequence, existing Planning Controls are considered sufficient to ensure the appropriate development of wind farms in Wales.

### ***Guidelines for Community Noise***

The petition cites the document issued by World Health Organisation – Guidelines for Community Noise<sup>3</sup> which was issued in 1999. This document covered a range of issues associated with noise but it is interesting to note that nowhere within the document is the concept of “noise respite periods” discussed. It may therefore be of benefit to consider what guidance has been issued by the WHO within this document and subsequent documents since the publication of the Guidelines for Community Noise. Within the Introduction to the Executive Summary, the level of general noise exposure is provided which states the following:

*In the European Union about 40% of the population is exposed to road traffic noise with an equivalent sound pressure level exceeding 55 dB(A) daytime, and 20% are exposed to levels exceeding 65 dB(A). When all transportation noise is considered, more than half of all European Union citizens is estimated to live in zones that do not ensure acoustical comfort to residents. At night, more than 30% are exposed to equivalent sound pressure levels exceeding 55 dB(A), which are disturbing to sleep. Noise pollution is also severe in cities of developing countries. It is caused mainly by traffic and alongside densely travelled roads equivalent sound pressure levels for 24 hours can reach 75–80 dB(A).*

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<sup>3</sup> <http://whqlibdoc.who.int/hq/1999/a68672.pdf>

The document then considers the issue of adverse health effects caused by noise and indicates that special effects are considered within the main document under separate headings which are listed as follows:

- *noise-induced hearing impairment;*
- *interference with speech communication;*
- *disturbance of rest and sleep;*
- *psychophysiological, mental-health and performance effects;*
- *effects on residential behaviour and annoyance;*
- *and interference with intended activities.*
- *This chapter also considers vulnerable groups and the combined effects of mixed noise sources.*

Of particular relevance to this petition are the guidance levels relating to disturbance of sleep and rest and effects on residential behaviour and annoyance.

#### *Disturbance of Sleep*

*For a good night's sleep, the equivalent sound level should not exceed 30 dB(A) for continuous background noise, and individual noise events exceeding 45 dB(A) should be avoided. In setting limits for single night-time noise exposures, the intermittent character of the noise has to be taken into account. This can be achieved, for example, by measuring the number of noise events, as well as the difference between the maximum sound level and the background sound level. Special attention should also be given to: noise sources in an environment with low background sound levels; combinations of noise and vibrations; and to noise sources with low-frequency components.*

The guidance indicates that the internal noise levels to ensure a good night's sleep should be 30 dB  $L_{Aeq, 8 \text{ hour}}$ . The individual noise event limit of 45 dB  $L_{AMAX}$  is to not be exceeded within a bedroom. Depending upon the

quality of glazing installed in a building façade and the level of ventilation that a dwelling occupier requires when sleeping, will result in an equivalent external noise level of between 40 – 45 dB  $L_{Aeq, 8 \text{ hour}}$  with windows open for ventilation and 45 – 55 dB  $L_{Aeq, 8 \text{ hour}}$  with windows closed. The equivalent  $L_{AMAX}$  noise limits would be 55 – 60 dB  $L_{AMAX}$  for windows open and 60 – 70 dB  $L_{AMAX}$  for windows closed.

### Effects on residential behaviour and annoyance

When considering this issue, the WHO Report states the following:

*The capacity of a noise to induce annoyance depends upon its physical characteristics, including the sound pressure level, spectral characteristics and variations of these properties with time. During daytime, few people are highly annoyed at  $L_{Aeq}$  levels below 55 dB(A), and few are moderately annoyed at  $L_{Aeq}$  levels below 50 dB(A). Sound levels during the evening and night should be 5–10 dB lower than during the day. Noise with low-frequency components require lower guideline values. For intermittent noise, it is emphasized that it is necessary to take into account both the maximum sound pressure level and the number of noise events. Guidelines or noise abatement measures should also take into account residential outdoor activities.*

The natural conclusion from the above would be that for evening periods (18:00 – 23:00), then a level of 45/50 dB  $L_{Aeq, 5 \text{ hour}}$  would result in moderate or high annoyance, respectively and 40/45 dB  $L_{Aeq, 8 \text{ hour}}$  for night-time periods (23:00 – 07:00). When considering the introduction of a new noise source, like wind turbines, this analysis takes no account of existing ambient or background noise levels which, if close to or higher than these levels, would indicate wind turbine noise of a similar level is unlikely to result in moderate annoyance.

The WHO Document summarises the range of noise levels that it considers will offer protection to the general population from the effects of noise within their *Table 1- Guideline values for Community Noise in Specific Environments*. This Table is reproduced below from the WHO Document.

**Table 1: Guideline values for community noise in specific environments.**

Specific environment	Critical health effect(s)	L <sub>Aeq</sub> [dB(A)]	Time base [hours]	L <sub>Amax fast</sub> [dB]
Outdoor living area	Serious annoyance, daytime and evening	55	16	-
	Moderate annoyance, daytime and evening	50	16	-
Dwelling, indoors	Speech intelligibility & moderate annoyance, daytime & evening	35	16	
Inside bedrooms	Sleep disturbance, night-time	30	8	45
Outside bedrooms	Sleep disturbance, window open (outdoor values)	45	8	60
School class rooms & pre-schools, indoors	Speech intelligibility, disturbance of information extraction, message communication	35	during class	-
Pre-school bedrooms, indoor	Sleep disturbance	30	sleeping-time	45
School, playground outdoor	Annoyance (external source)	55	during play	-
Hospital, ward rooms, indoors	Sleep disturbance, night-time	30	8	40
	Sleep disturbance, daytime and evenings	30	16	-
Hospitals, treatment rooms, indoors	Interference with rest and recovery	#1		
Industrial, commercial shopping and traffic areas, indoors and outdoors	Hearing impairment	70	24	110
Ceremonies, festivals and entertainment events	Hearing impairment (patrons:<5 times/year)	100	4	110
Public addresses, indoors and outdoors	Hearing impairment	85	1	110
Music and other sounds through headphones/ earphones	Hearing impairment (free-field value)	85 #4	1	110
Impulse sounds from toys, fireworks and firearms	Hearing impairment (adults)	-	-	140 #2
	Hearing impairment (children)	-	-	120 #2
Outdoors in parkland and conservations areas	Disruption of tranquillity	#3		

#1: As low as possible.

#2: Peak sound pressure (not LAF, max) measured 100 mm from the ear.

#3: Existing quiet outdoor areas should be preserved and the ratio of intruding noise to natural background sound should be kept low.

#4: Under headphones, adapted to free-field values.

### ***Night Noise Guidelines for Europe***

In 2009, the WHO issued Night Noise Guidelines for Europe<sup>4</sup> which made a number of recommendations with respect to night time noise levels for the protection of sensitive individuals. Within the reports abstract the following is stated:

*The WHO Regional Office for Europe set up a working group of experts to provide scientific advice to the Member States for the development of future legislation and policy action in the area of assessment and control of night noise exposure. The working group reviewed available scientific evidence on the health effects of night noise, and derived health-based guideline values. In December 2006, the working group and stakeholders from industry, government and nongovernmental organizations reviewed and reached general agreement on the guideline values and key texts for the final document of the Night noise guidelines for Europe.*

*Considering the scientific evidence on the thresholds of night noise exposure indicated by  $L_{night, outside}$  as defined in the Environmental Noise Directive (2002/49/EC), an  $L_{night, outside}$  of 40 dB should be the target of the night noise guideline (NNG) to protect the public, including the most vulnerable groups such as children, the chronically ill and the elderly.  $L_{night, outside}$  value of 55 dB is recommended as an interim target for the countries where the NNG cannot be achieved in the short term for various reasons, and where policy-makers choose to adopt a stepwise approach. These guidelines are applicable to the Member States of the European Region, and may be considered as an extension to, as well as an update of, the previous WHO Guidelines for community noise (1999).*

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<sup>4</sup> [http://www.euro.who.int/\\_data/assets/pdf\\_file/0017/43316/E92845.pdf](http://www.euro.who.int/_data/assets/pdf_file/0017/43316/E92845.pdf)



$L_{\text{night, outside}}$  as defined in the Environmental Noise Directive (2002/49/EC) is the free-field yearly average, 8 hour  $L_{\text{Aeq}}$  noise level. This level is derived through long term measurements or calculation of the incident noise levels from traffic flow and other noise data. For wind turbine noise, this may be calculated through the knowledge of the wind speed characteristics for a specific site and the noise emission curve for the installed wind turbine at a wind farm. In general, the  $L_{\text{night, outside}}$  is around 4 dB lower than the maximum received noise of a wind farm, i.e. a level of 45 dB  $L_{\text{Aeq}}$  is approximately equivalent to 41 dB  $L_{\text{night, outside}}$ . A level of 45 dB  $L_{\text{Aeq}}$  is equivalent to a level of 43 dB  $L_{\text{A90}}$  for wind turbine noise, i.e. the existing guidance within ETSU-R-97<sup>5</sup>, specified within TAN8<sup>6</sup> as being "makes a series of recommendations that can be regarded as relevant guidance on good practice" for the assessment of wind turbine noise, falls closely within the aspirations of the WHO when considering night-time operational noise levels for the protection of sleep and health.

### ***Burden of disease from environmental noise: Quantification of healthy life years lost in Europe***

In 2011, the WHO released a report titled: Burden of disease from environmental noise: Quantification of healthy life years lost in Europe<sup>7</sup>. This report considered the potential health effects associated with a number of noise sources. From the guidance, levels of less than 50 dB  $L_{\text{Aeq, 16 hour}}$  will result in no statistically significant increase in health effects associated with noise. Levels of highly disturbed sleep start to increase when noise levels exceed a level of 45 dB  $L_{\text{night, outside}}$  and levels of

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<sup>5</sup> ETSU-R-97: The assessment and rating of noise from wind farms.- 1996:  
<http://webarchive.nationalarchives.gov.uk/+/http://www.berr.gov.uk/energy/sources/renewables/explained/wind/onshore-offshore/page21743.html>

<sup>6</sup> Technical Advice Note 8: Renewable Energy:  
<http://wales.gov.uk/desh/publications/planning/technicaladvisenotes/tan8/tan8main2e.pdf?skip=1&lang=en>

<sup>7</sup> [http://www.euro.who.int/\\_data/assets/pdf\\_file/0008/136466/e94888.pdf](http://www.euro.who.int/_data/assets/pdf_file/0008/136466/e94888.pdf)

annoyance increase for  $L_{den}$ <sup>8</sup> values above around 55 dB which is equivalent to a level of 46 – 47 dB  $L_{Aeq}$  depending upon wind speed distribution for a wind farm.

### **Wind Turbine Noise Guidance**

In general, all wind farms constructed in Wales since 1996 will have been assessed in accordance with the requirements outlined within ETSU-R-97, *The assessment and rating of noise from wind farms* which is identified within TAN8 as current best practice. Despite this document having been issued in 1996, the levels which are proposed to limit operational wind turbine noise fall inline with the latest guidance from the WHO for the protection of a wind farm neighbours' health. Therefore adoption of the methodology should ensure and minimise the issue of noise induced health effects.

ETSU-R-97 advises that wind turbine noise should be limited during the amenity hours to a level of "the greater of 35 – 40 dB  $L_{A90}$  or background + 5 dB". In the absence of any existing background noise, this implies that wind farm noise may operate at an agreed level between 35 and 40 dB  $L_{A90}$ . With increasing wind speeds, the background noise level will generally rise in level such that, even without the wind turbines installed, the existing background noise level may be higher than 35 dB  $L_{A90}$ . When this occurs, then the allowable level of wind turbine noise is then increased to no more than + 5dB over the prevailing background noise level. A level of 40 dB  $L_{A90}$  is equivalent to a level of 42 dB  $L_{Aeq}$ . This level can be compared with the guidance levels discussed above for the protection of health, sleep and annoyance and it may be seen that allowable operational noise levels for wind farms fall below these levels during quiet periods.

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<sup>8</sup>  $L_{den}$  = day/evening/night level where a correction for time of day is applied to the incident or predicted noise level, 0 dB for daytime, +5 dB for evening and +10dB for night-time periods

ETSU-R-97 also proposes a night-time noise criterion which is again based upon a fixed level in association with a level above the existing noise environment. For night-time operations, this is the "*greater of 43 dB  $L_{A90}$  or background + 5 dB*". This means that during the quieter night-time periods, operational wind turbine noise will not exceed a level of 45 dB  $L_{Aeq}$  ( $L_{Aeq} = L_{A90} + 2$  dB) at any neighbouring property unless the background noise level is sufficiently high as to allow an increase above this fixed limit. As we have identified above, a level of 45 dB  $L_{Aeq}$  as the maximum operational noise level is equivalent to around a level of 41 dB  $L_{night, outside}$  the aspirational level proposed within the Night-noise guidelines. It is also below the level at which an increase in highly disturbed sleep is identified within ref 7 and the onset of high annoyance.

Therefore, we would suggest that a wind farm which is assessed in accordance with the requirements of ETSU-R-97 will protect near neighbours from noise which is of a sufficient level as to cause increased health issues associated with this source.

However, this does not mean the wind turbines are inaudible. To the contrary, the guidance recognises that through the application of the method within ETSU-R-97, wind turbine noise will be audible at some neighbouring properties and that, at times, wind turbine noise may be very audible. It is this audibility which can give rise to adverse comment and potentially complaints.

### ***Petition Proposal***

We consider that the petition does not recognise that a wind farm, whatever the turbine size, may only be permitted when considering noise, if it is compliant with planning guidance which, generally, means compliance with the requirements of ETSU-R-97. Since this method is reliant upon the existing noise environment for the setting of noise limits, the level of background noise will thereby determine the separation distances between wind turbines and neighbouring dwellings.

In very quiet background noise environments, separation distances as large as 1500 metres might be required to be compliant with the limits set within ETSU-R-97. However, in noisy environments, such as close to a motorway, the separation distances can be much closer, to the point where traffic noise can completely mask wind turbine noise although one is only positioned 50m from the wind turbine.

The adoption of a restriction on the operation of wind turbines based solely upon the separation distance would mean that some wind farms which can operate quite happily with no noise issues would be penalised. As a consequence, we consider that the petition is ill advised.

Furthermore, we consider that the levels of operational noise associated with wind farms, when assessed in accordance with the noise limits set out within ETSU-R-97 will generally ensure that noise levels are not sufficient to cause statistically significant health effects.

When considering the issue of noise nuisance, we believe that existing legislation provides the appropriate means by which control this potential nuisance and consider, therefore, that no additional controls are necessary.

please forward this to the petitions committee. We fully support the petition of Mr Foster Ref P04 -329, I voted to support the people in my village The level of noise is not acceptable an has caused us much stress an damaged our health people find it hard to sleep at night that are nearest to the find turbines there human rights an health have been taken from them the labour leader here in wales dos not care about us or our concerns . Peoples health has been damaged an the whole area here is in a state of anger as we feel we will be walked over our concerns are never taken into consideration nor REPLIED too. We are fully behind M r FOSTER yours faithfully Mr an Mrs H ewer

National Assembly for Wales  
Cardiff Bay  
Cardiff  
CF99 1NA

01<sup>st</sup> November 2011

Dear Abigail Phillips

I live about 50 meters from a Skystream 3.7 wind turbine and I can tell you it is not very pleasant. Firstly I would like to discuss the planning application for this turbine.

The application number for this planning application is DC/2008/00761. The case officer ~~XXXXXX~~, a very young University Graduate gave Mrs Cooke and myself misleading information about the planning process and was going to let us know when a committee meeting was taking place so that we could air our concerns. Ms Morrison never contacted us and the application was approved with out conditions regarding noise. The planning committee nevertheless was given inaccurate information about the noise levels by the Environment Health Department of Monmouthshire County Council MCC who went to the Skystream UK agents in Pontrilas to see a Skystream 3.7 in action. This was a one off meeting which lasted 30 minutes. I don't feel one visit is enough to understand how different wind speed and directions can alter the level and type of noise it makes. At the Llantrisant Fawr Community Council this application was objected by local councillors.

During the planning survey a bat survey had to be carried out, this was done by Leyton Williams-Davies between the 12<sup>th</sup> May and the 8<sup>th</sup> August at Post Cottage and Llanllowell House which is about a mile away. The conclusion to this was that "only two species common pipistrelle and Noctule where recorded." No survey was carried out on Coed Cwnwr Farm only 20 meters away. However during the first half of 2010 I can contacted my the Bat Conservation Trust (Wales) who carried out a survey within 100 meters of the turbine and found not two species but five, these where Common pipistrelle, Noctule, Soprano pipistrelle, Myotis species (unable to identify to species level) and Lesser horseshoe bat. The latter showing a marked decline in number and distribution. Please contact Dr Ruth Angell Senior Researcher on ~~02707000407~~ if you would like more information.

Now the turbine has been running for just over a year the noise can only be described as a helicopter in the distance and whining like a siren. This turbine as kept my son awake at 2am on numerous occasions and as a HGV driver it is important he gets a sufficient amount of sleep. ~~XXXXX~~, the turbine owner only spends on average two nights a week at ~~XXXXX~~ where the turbine is situated and has been advised by MCC Environmental Health to limit the turbines use when he is not at ~~XXXXX~~. He is very reluctant to do so and turns the turbine off when he is in residence and on when he is absent.

I invited ~~XXXXX~~ to come out and admire the eye sore she had provided a case for and the first thing she said when she stepped out of her car was "I didn't think it was going to be as big as this." This shows that she was out of her depth and it was

very irresponsible of MMC to allow such an inexperienced person to be the case officer on such a technical subject.

I feel with the whole process I have been let down by MCC. Since living at Coed Cwnwr Farm from 1962 it has been a beautifully peaceful place. Around September 2010 the turbine was erected, after a month to see how the turbine was going to sound and the level of noise coming from it I had to complain to the Environment Health. ~~XXXXXXXXXX~~ the person who ill-advised the planning committee is now in charge monitoring the turbine. He has said to both Mrs Cooke and myself from the start that he wants the turbine to stay operational. This however gives me the impression that if this turbine was making more than the legal noise level it would not be condemned by ~~XXXXXXXXXX~~ which is biased. If he cannot act in an impartial manner he should ask someone else to take the reins on this case but then if the outcome that he doesn't want happens he will be proved wrong with his 30 minutes decision making quest. Also the Skystream is not in compliance with FCC regulations regarding EMI interference, but once again my voice has not been heard nor has Environmental Health done any research into this.

From my experience of these small scale turbines I feel the persons advising are not qualified to do so and as a result I don't feel the local councils have the knowledge to approve these applications, but I am positive officials would object this application if it was going to be put in their back yard. I am not against renewable energy but I am against causing nuisance to your neighbours. I have planted over 50 acres of board leaf woodland on my farm. This does not block any ones views nor cause nuisance but if it did I would serious remove it, after all we are only on this planet once so it is better if we all try to live together in harmony.

Yours sincerely,

S J Lewis

**NATIONAL ASSEMBLY FOR WALES'  
PETITIONS COMMITTEE INQUIRY ON THE  
CONTROL OF NOISE FROM WIND  
TURBINES**

**Response from the Farmers' Union of Wales**

**November 2011**



# NATIONAL ASSEMBLY FOR WALES' PETITIONS COMMITTEE INQUIRY ON THE CONTROL OF NOISE FROM WIND TURBINES

## Response from the Farmers' Union of Wales

### INTRODUCTION

1. The Farmers' Union of Wales welcomes this opportunity to contribute to the Petitions Committee's Inquiry on the Control of Noise from Wind Turbines, with particular reference to the potential impacts the proposals outlined in the petition could have on the agricultural sector's contribution to renewable energy production.
2. The Farmers' Union of Wales (FUW) supports a policy of sustainable development and therefore welcomes the principle of clean, renewable energy sources to reduce dependency on fossil fuels and their associated negative impacts on the environment.
3. Owing to an abundance of natural resources, Wales is ideally placed to lead by example in the generation of renewable energy. With the Welsh Government actively encouraging alternative enterprises and diversification, the farming industry in Wales is ideally placed to make an important contribution to producing energy from renewable sources whilst helping to reduce greenhouse gas emissions and other adverse environment impacts of climate change.
4. As part of this contribution, the Union favours the development of on-farm or small scale local energy generation which is less intrusive on the landscape and the benefits of which can be passed directly to the local community.

### Views from the Farmers' Union of Wales

5. The FUW believes that the targets for renewable energy production set by the UK Government and the Welsh Government will only be achieved if a holistic approach is adopted across all of the devolved nations. The imposition of respite periods in Wales could impact on this holistic approach.
6. Wales, with its abundance of natural resources, has the potential to generate a considerable amount of energy from a number of renewable sources. However, as outlined in its Energy Policy Statement, the Welsh Government believes that the greatest potential, and consequently the concentration of Government policies, lies with the use of onshore wind energy to generate electricity.
7. In recent years, there has been a great deal of controversy surrounding the use of wind power as an alternative energy source. The debate on the

acceptability of wind farms centres on the purported environmental impact on sites where turbines have been, or will be, erected.

8. The FUW recognises that potential conflicts may arise from wind farm developments and believes that these issues have to be considered in the context of existing and proposed sites.
9. As outlined above, the Union favours the promotion of small scale individual wind turbines, which can be erected near houses or on farms, for the supply of electricity to the dwelling or business. Small scale developments offer farmers an opportunity to diversify their businesses as well as being regarded as less intrusive on the landscape, the benefits of which are passed directly to the local community.
10. Due to rising input costs, including the cost of electricity, Welsh farmers are seeing renewable energy as a viable means of reducing costs as well as reducing their carbon footprint. However, to date, the uptake of renewable energy projects has been slow. There are a variety of reasons for this including constraints within the planning system and public perceptions issues – mainly relating to wind turbines.
11. The Union has welcomed steps taken by the Welsh Government towards reducing the restrictions on planning permission for renewable technologies – especially in open countryside – with the aim of increasing the number of small-scale renewable energy generation projects. This includes the extension of the Domestic Permitted Development Rights to allow certain forms of small scale renewable energy generation equipment to be installed without the need for planning permission and a recent consultation on extending similar proposals to non-domestic premises including farms.
12. There has already been a marked decline in the number of planning applications for wind farm developments in the UK, with 2010 having the lowest number of applications since 2005, as well as an increase in the number of applications which are refused planning permission<sup>1</sup>. The Union believes that the introduction of respite periods will only add to the bureaucracy encountered and could further reduce the number of applications for wind farm developments.
13. The FUW is concerned that the proposals, which would require turbines to be turned off for upto twelve hours a day, could impact the economics of developments which exceed the 1.3MW threshold but remain within the limits set for payments under the Feed in Tariff scheme. The overnight period is the most profitable time to generate electricity, due to the low consumption of electricity on the farm during this period. The proposals could mean that a renewable project could become financially unviable for some developers due to longer payback times on the capital invested, thus potentially impacting on the renewable energy generation targets set by the Welsh and UK Governments.

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<sup>1</sup> <http://www.mcgrigors.com/news/2011/11-July-2011.html>

14. Whilst the Union notes from the petition that the statute will only apply to wind turbines with a generation capacity over 1.3MW, and therefore should not impact on smaller developments, it is concerned that, should a statute be introduced, future amendments could lower the threshold so encompassing a wider range of turbines therefore impacting on community or farm scale generation projects.
15. The FUW believes that the introduction of respite periods could lead to an increase in the number of turbines installed in rural areas of Wales as developers bypass the 1.3MW threshold, through the installation of turbines with a lower generation capacity, whilst maintaining the same overall generation capacity from the development.
16. The majority of the large scale wind farm infrastructure projects are concentrated in rural areas, specifically the Strategic Search Areas outlined in Technical Advice Note (TAN) 8 – Planning for Renewable Energy. The natural topography and landscape features of these areas can play an important role in screening noise from wind turbines, therefore the Union considers that flexibility is needed when considering set distances for wind turbines to take advantage of the natural screening provided by these features.
17. The siting of future wind farm developments, in relation to individual dwellings and local communities, is controlled by the policy framework contained within the Welsh Government's Planning Policy Wales document which has been drafted specifically to reflect the needs of Wales. Paragraph 12.8.4 states that "developers will need to be sensitive to local circumstances, including siting in relation to local landform, proximity to dwellings and other considerations." Developers should also "seek to avoid, or where possible minimise adverse impacts through careful consideration of location, scale, design and other measures" (paragraph 12.10.3)
18. As part of their role to determine applications for renewable energy developments and associated infrastructure, local authorities also have a duty placed on them to "take into account the need to minimise impacts on local communities, to safeguard quality of life for existing and future generations" (paragraph 12.10.1).
19. Whilst the Union acknowledges that the Welsh Government is only able to provide consent for developments upto 50MW, the Union believes that the stricter implementation, by the Welsh Government and local planning authorities, of the policies outlined in Planning Policy Wales will have a more beneficial impact, in terms of the environment, local communities and renewable energy generation, than the introduction of respite periods when wind turbines have to be switched off.

Abigail Philips,  
Cynulliad Cenedlaethol Cymru  
Bae Caerdydd  
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CF99 1NA

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Ponthir WWTW,  
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Sent by email to:

2 November 2011

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### **Response to the Welsh Government Petitions Committee on night-time noise from wind turbines**

Dear Ms Phillips,

Thank you for your letter by e-mail of 23 September inviting Dŵr Cymru Welsh Water to respond to the petition received by the Petitions Committee regarding noise from wind turbines. We are very grateful for the opportunity to respond to a proposal which, if enacted, would have a serious adverse effect on the drive for renewable energy and carbon reduction in Wales.

Dŵr Cymru Welsh Water has some three million customers in Wales and adjoining parts of England. We provide an essential public service to our customers by supplying their drinking water and then carrying away and dealing with wastewater. We are owned by Glas Cymru a not-for-profit company with no shareholders and we are run solely for the benefit of our customers.

Dŵr Cymru is a major energy user - we are in the top ten energy consumers in Wales. The treatment processes required to bring drinking water and waste water up to the required standards can be very energy intensive. Last year we spent £34 million on gas and electricity and emitted over 250,000 tonnes of carbon, numbers which we are committed to reducing. In our Strategic Direction Statement, "*Our Sustainable Future*" (published in November 2007), we undertook to reduce our total carbon footprint by 25% by 2015, with a view to halving it by 2035.

Against that background, Dŵr Cymru is investing in renewable energy to reduce carbon emissions and operating costs to the benefit of our customers, the people of Wales. Only last month we opened an anaerobic digestion plant in Cardiff which will generate over 20,000,000 kWh of electricity every year.

Our renewable energy programme also includes the recently announced development of single wind turbines at two of our waste water treatment sites at Newport and Swansea. Our plans for wind turbine installations have been developed in line with the UK and Welsh Government technical and planning policies and guidelines. Both schemes are close to being submitted for planning approval, the culmination of almost 3 years of feasibility and environmental studies. The two will represent a combined investment of £8m and will provide over half the power for these high energy use sites.

Waste Water Treatment Works such as these are usually located quite near to residential communities (since their purpose is to supply these communities with water and sewerage services). Whilst we have carefully chosen works which are not immediately adjacent to residential development, both lie within 1.5km of the nearest communities. Were a night time curfew to be introduced we would have little option but to cancel the investment as it would become uneconomic. Yet, as we shall show, little or no appreciable benefit would be gained by the communities. The impact of not proceeding with these projects would be to limit our options for meeting our carbon targets and hinder us in delivering the best value for our customers (by removing an opportunity to lower operating costs and so help to keep bills low for our customers).

Noise from wind turbines is an area that has already received much attention with considerable evidence available, some highlights of which we would like to draw to the attention of the committee. Current planning and policy guidance has been intensively and robustly prepared involving significant technical input and consultation in regards to noise pollution. More stringent design and operating scenarios are unlikely to provide any realised noise benefits to the residents of Wales but it will reduce the likelihood of Wales and the UK achieving commitments to global greenhouse reduction targets.

Current guidance and best practice documents for wind farm design and operation includes:

- *The assessment and Rating of Noise from Wind Farms “ETSU-R-97”* produced by the Working Group on Noise from Wind Turbines (the Working Group was established by the former Department for Trade and Industry).
- The “Hayes McKenzie Report” titled “The measurement of Low Frequency Noise at three UK wind farms (May 2006).
- Best practice guidance documents to assess and account for wind shear .
- PPS22, *Renewable Energy*

The following is an extract from the Department of Energy & Climate Change webpage on Wind Energy Noise

*“Wind turbines do make noise, but it is worth putting this in context. The indicative maximum noise level of a wind farm at 350m (1150ft) is usually roughly comparable to the sound of leaves rustling in a general breeze (in the region of 35-45 dB). With this level of noise, two people can be up to at least three metres (or about 10 feet) apart and still hold a conversation without disruption.”* Source: [http://www.decc.gov.uk/en/content/cms/meeting\\_energy/wind/onshore/comms\\_planning/noise/noise.aspx](http://www.decc.gov.uk/en/content/cms/meeting_energy/wind/onshore/comms_planning/noise/noise.aspx)).

As part of the UK Government commitment to providing planning authorities and developers clear guidance they commissioned consultants Hayes McKenzie to undertake a study into noise complaints and to provide clarity around any confusion associated with current guidance document. The Hayes McKenzie report concluded that current guidelines (i.e. ETSU-R-97) give robust guidance but that any developments should also “*review, or at least acknowledge, the changes which have been made to some of the documents referred to in ETSU-R-97; such as the replacement of IEC651 with BS EN61672, the update of BS4142 from the 1990 version to the 1997 version, and the latest WHO guidance on noise limits to prevent sleep disturbance*”.

“Respite periods” as referred to in the petition proposal are not common in public health legislation nor are they called for by the World Health Organisation (WHO). The WHO has published more recent guidance (2009) on the targets and recommendations for countries to manage night noise emissions.

Current planning processes already require noise to be assessed as part of an environmental impact assessment, allowing each development to be assessed upon its own merits and we consider that such a site by site assessment remains the most appropriate way of ensuring local communities are not unduly affected.

DCWW is committed to following industry guidance and best practice to ensure its sustainability projects do not compromise the quality of life in the surrounding communities. Having considered the available technical evidence and done extensive environmental impact assessment work for its own proposed developments, we consider any proposals for respite periods as being non-beneficial to the surrounding communities. Yet such restrictions, if imposed, would have adverse impact on the environment and drive for sustainability in Wales.

I hope we have provided evidence both on a general level and with specific reference to the impact on our organisation and our customers. Should you require any further clarification or information, please don't hesitate to contact me.

Yours sincerely

Mike Pedley  
Head of Energy

# RWE npower renewables

National Assembly for Wales  
Petitions Committee  
Cardiff Bay  
Cardiff  
CF99 1NA

1<sup>st</sup> November 2011

Dear Ms Phillips

## Petitions Committee Response

Please find following a reply from RWE npower renewables to the Petitions Committee of the National Assembly in response to the following petition:

*'We call upon the National Assembly for Wales to urge the Welsh Government to pass a statute controlling the noise nuisance from wind turbines during anti-social hours. We ask for the implementation of respite periods during which time turbines would be switched off. Noise respite periods are common in public health legislation. They are called for by the World Health Organisation in their Community Noise report; and are currently implemented in the U.K. on airport operations, construction sites and factories and other evening and overnight noise nuisance. We ask that this applies to turbines above 1.3 MW, and that respite periods be between 18.00Hrs to 06.00Hrs for turbines within 1.5 Km of individual residences; and 22.00Hrs to 06.00 Hrs for turbines within 2Km of communities. Authorities within Wales determining applications under 50MW Plate Capacity, and the Infrastructure Planning Commission determining those over 50MW should make developers aware of this Public Health restriction which may affect individual turbines.'*

RWE npower renewables is the UK subsidiary of RWE Innogy and is one of the UK's leading renewable energy developers and operators, committed to developing and operating wind farms, hydro and biomass plant to produce sustainable electricity.

The company operates some 46% of all renewable energy capacity installed in Wales with 7 onshore wind farms, 7 hydro projects and 2 offshore wind farms and has already invested £200million in renewable generation in Wales.

## Summary of response

We are not aware of any widespread issues of noise nuisance from turbines of any size in Wales. Existing noise control guidance and legal redress provide robust protection to

### RWE npower renewables

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communities against noise nuisance from wind farms while providing wind farm developers and operators with clear, concise parameters within which wind farms operate.

The petition cites methodology that is an inappropriate means of assessing noise impacts and have failed to consider other key factors relevant to protecting communities from noise associated with wind farms.

The petition does not consider the negative impact its request would have on potential investment in Wales and how, if implemented, the request would inhibit Wales' progress towards its renewable energy targets.

We are prepared to give evidence in person if required.

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### **Current controls**

Wind farms across Wales and the rest of the UK are subject to ETSU-R-97 guidance which provides robust and appropriate noise limits for wind farms based upon the individual character of an area including its baseline noise; topography; the size and numbers of turbines. The guidance is used successfully to ensure levels of noise from wind farms are acceptable.

By applying the ETSU guidance, the wind farm developer/ operator and the local planning authority set appropriate noise limits as a planning condition. This provides safeguards that noise levels will not be a nuisance for the local area.

On the rare occasion that an unforeseen noise issue arises from an operating wind farm, this can be addressed under the auspices of the Environmental Protection Act of 1990 and the Noise and Statutory Nuisance Act 1993 through the serving of a Control or Abatement Order. This could result in a wind farm, or certain wind turbines within a wind farm, being switched off for specific periods as necessary to control any noise nuisance.

The combination of ETSU-R-97 and relevant legislation provides a proven and robust level of control that protects local communities. It also gives confidence to wind farm developers/operators that any noise concern will be dealt with using a method that has been developed by experts and provides safeguards for individual projects to address specific concerns.

The current controls work. ETSU-R-97 is effective and there are comparatively few complaints arising from wind farm sites in the UK. Indeed, since 1991 there has only been one case of statutory nuisance reported in the UK (Chartered Institute of Environmental Health) in relation to wind farms. There is no evidence to suggest that any further protection beyond this is required.

### **Request for 'respite periods'**

Guidelines on noise levels at night, published in October 2009 by the World Health Organisation (WHO) recommend external and internal noise guidance levels. These are reflected by the limits given in ETSU-R-97.

We are not aware of the common practice of 'noise respite periods', but assume that they might be implemented in response to a defined noise nuisance that exceeded existing



noise guidance. It is unlikely that such restriction would be implemented without detailed understanding and agreement that the noise in question was actually creating a nuisance.

Example: Cars travelling on a road close to Community A at a speed of 60 mph might create a level of noise that is deemed a nuisance to local residents. If proven, it may be appropriate for the Local Authority to reduce the noise produced by the cars on a particular stretch of road that is causing the problem by reducing the speed limit to 40mph. It would not be an appropriate response to restrict cars on all roads in Wales to 40mph to solve the problem experienced by Community A.

### Parameters of the petitions request

The petition states that any 'respite period' should apply to turbines of capacity 1.3MW or above within 1.5km-2km of a community or residence. These criteria are not appropriate or reasonable for the following reasons:

1. There is no widespread occurrence of sleep disturbance at night from wind farms in Wales that requires special consideration over and above that offered by the planning process.

A report "Research into aerodynamic modulation of wind turbine noise" by the University of Salford, 2007 (NANR233 contract # for the Defra, BERR and CLG) found that only 27 of 133 operating wind farms in the UK had received complaints. There were an estimated 239 formal complaints since 1991, of which 152 were from a single site, and only one site was upheld as a statutory nuisance. In comparison, complaints related to industrial noise alone for the same period for 69% of councils from England and Wales, totalled 286,872. 1401 of these were considered a statutory nuisance (source: Chartered Institute for Environmental Health).

It is clear that there is no widespread noise nuisance caused by wind farms that requires special consideration.

2. The capacity rating of a turbine **cannot** be used to accurately predict or determine noise output. Significant improvements in wind turbine generating capacities have not resulted in a comparable increase in noise from wind turbines.

3. The petition's proposed criteria are arbitrary and take no consideration of other factors eg topography, existing levels of background noise. The baseline background noise in an area should be used to determine the limit of sound emissions from a wind farm, not the generating capacity of the turbines.

Example: A wind farm is located 1.5km from a community between which there is a large hill. The community will not hear the wind farm so it is not reasonable to expect the wind farm to be switched off at night.

4. Total noise emissions from a large number of small capacity turbines can be the same as from a few large capacity turbines.

To successfully control levels of noise from wind farms and protect local communities, a

system must be used that enables effective analysis of all of the following when setting appropriate noise limits for a project:

- the separation distance of the turbine/s from a home/s
- the number of turbines in the wind farm
- the local topography
- the existing background noise at the home/s
- the sound data from the turbine selected for use

These are all considered through the use of ETSU-R-97 which makes reference to the best current guidance and most effective way of protecting communities. ETSU-R-97 represents the output from experts across the board as to what is regarded as "appropriate" for the protection for residential amenity.

The limits recommended by ETSU-R-97 are comparable with other relevant limits including those recommended by the World Health Organisation (WHO). In some cases the ETSU-R-97 guidelines are even more stringent than those proposed by WHO – see appendix 1 – providing even greater protection to local residents.

### **Possible impacts if the petition request was implemented**

#### *1. Reduced investment into Wales*

i. Wind farm developers and operators need to ensure that every project developed and built will operate at a profit in order for the business to succeed. If a wind farm's operation is prohibited overnight, about 50% generation and, therefore, some 50% of revenue will be lost. Making use of smaller (<1.3MW), less efficient turbines to avoid the restriction will also impact heavily on generation.

This will make developers disinclined to invest in Wales when there are other more attractive countries to invest in.

ii. Any reduction in development of onshore wind in Wales would have a negative effect on those Welsh businesses looking at supply chain opportunities in the renewables sector and subsequently, any associated jobs.

The renewables sector already provides 1000 full time equivalent jobs in Wales and £160m to the Welsh economy and is forecast to contribute £1 billion to the Welsh GDP by 2020. If Wales is made a significantly less attractive place to invest in renewables, we would expect these figures to reduce.

iii. The offshore wind supply chain opportunities may also be adversely impacted as it is recognised that the onshore wind sector acts as a spring board to businesses gearing up to provide for the developing offshore wind sector.

iv. Investors will lose confidence in Welsh government if legislation is passed that is inappropriate, unnecessary and unfairly penalises renewable energy developers.

v. If this petition request is progressed beyond the initial call for evidence, it may create a moratorium on onshore wind farm development in Wales until a decision is taken on the issue. Both developers and Local Authorities may be unwilling to progress projects any further until clear guidance is issued, for fear of retrospective restrictions imposed on

projects.

## *2. Impact on TAN8 and Welsh renewable energy targets*

i. There is currently 409MW of onshore wind installed in Wales. If the petition's restriction was implemented retrospectively affecting existing projects with turbines of 1.3MW or above (which it is not clear whether it would), it would reduce generation of about half the projects currently operating in Wales by some 50%.

ii. GIS analysis of the TAN8 areas demonstrates that any move to implement the petition request would decimate the areas available for future development with turbines over 1.3MW within TAN8, so defeating the Welsh Government's whole policy. See appendices 2.1 - 2.8.

The majority of our projects in TAN8 areas – Clocaenog, Brechfa East and West - would become uneconomic losing so many turbines to the restriction, reducing, or even eliminating any possibility that these projects would make a contribution towards the Welsh government's targets. See appendices 3.1 - 3.4.

iii. Wales has already acknowledged it has missed its Tan8 target of 800MW of onshore wind installed by 2010 – currently only 175MW is installed and even if all consented projects were built, this would only result in about 400MW.

Installed capacity, however, becomes a less meaningful measure if projects are unable to run for 50% of the time – what is important is TWh generated. With targets of 4TWh generated per annum by 2010 and 7TWh generated per annum by 2020 it is difficult to see how the targets will be met even if TAN8 projects in development did continue to be progressed, as most of their outputs would be restricted by 50%.

iv. With more attractive markets elsewhere, investors are less likely to look to Wales as a viable place to invest in wind farms. It may become difficult for Wales to attract renewable energy developers into the country to develop new projects in the future.

## *3. An increase in the number of turbines under 1.3MW in Wales*

If turbines of 1.3MW and above were restricted in their hours of operation, it is possible that wind farm developers still interested in Wales could seek to use turbines with capacities under 1.3MW to avoid being affected by the restrictions. This would result in an increase in the development of wind farms that consist of greater numbers of smaller turbines, covering larger areas as developers seek to achieve the same overall installed capacity as would have been possible using fewer numbers of more powerful turbines.

Consequently, more wind turbines would be required in Wales to meet the Welsh renewable energy targets. They would be installed at greater cost than is necessary with no practical method of protecting communities from potential noise impacts if guidance relied purely on installed capacity and distance from dwelling.

## **Conclusion**

Existing guidance (ETSU-R-97) to protect communities from wind farm noise works and is comparable, if not better, than guidance proposed by the WHO. Where exceptional

circumstances require further action there is a clear and effective method of dealing with the situation through the Environmental Protection Act of 1990 and the Noise and Statutory Nuisance Act 1993.

There is no evidence that there is a problem in Wales caused by wind farm noise. There is, however, considerable risk to both Welsh renewable energy targets and economic investment in Wales should this petition be progressed further.

Thank you for the opportunity to respond.

Yours sincerely



**Julia Lynch Williams**  
**Managing Director**

### **Appendix 1 – A comparison of ETSU-R-97 with WHO and BS4142 guidelines**

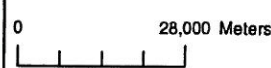
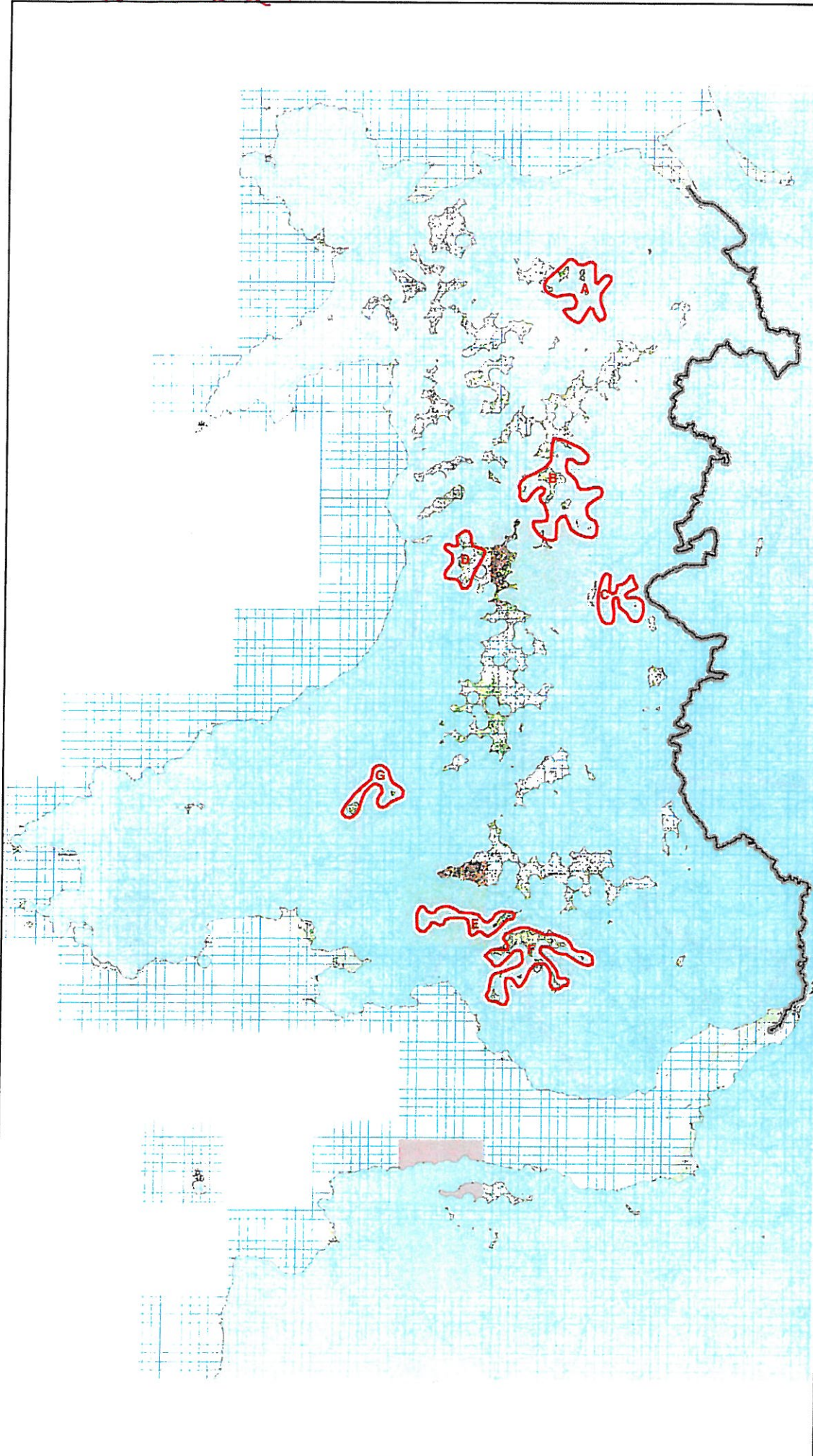
ETSU-R-97 defines limits for both 'Quiet Day' and 'Night Hours'. For these times an appropriate limit is devised, based upon the individual character of an area (existing baseline noise) and criteria for the protection of amenity. ETSU-R-97 recommends a limit based upon the measured background noise level plus 5dB. This is in agreement with the commonly used standard BS4142: *Method for rating industrial noise affecting mixed residential and industrial areas*, 1997 which states that if the difference between measured background noise and the rated specific noise is around +5dB then the impact is of marginal significance.

For very low background noise environments (<30dBA) ETSU-R-97 recognises a minimum low level to which the limit can drop. For Night Hours this is set at 43dBA  $L_{90}$  and for Quiet Day periods 35dBA  $L_{90}$ . These limits are **external** to the residence being protected.

In comparison the World Health Organisation (WHO) recommend **internal** values of 30dBA  $L_{eq}$  for sleep preservation. The external ETSU-R-97 Quiet Day limit of 35dBA  $L_{90}$  equals 37dBA  $L_{eq}$  and, allowing for a reduction of 15dB for an open window, would result in an **internal** noise level of 22dBA  $L_{eq}$  – which is lower than the WHO recommendations.

The ETSU-R-97 External Night Time Limit of 43dBA  $L_{90}$  equates to an  $L_{eq}$  of 45dBA. Allowing for a 15dB reduction for an open window (permitted by WHO), this gives an internal noise limit of 30dBA  $L_{eq}$  which is the same as the latest recommendations by WHO for community noise, as mentioned above.

The WHO recommend 55dBA  $L_{eq}$  for external areas such as terraces to protect the majority of people from being annoyed and 50dBA to protect the majority of people from being moderately annoyed during the day time; although in practice most European countries have adopted 40dBA  $L_{eq}$  which equates to 38dBA  $L_{90}$ . For comparison, the ETSU-R-97 absolute Quiet Day limit is lower at 35dBA  $L_{90}$ .



**Legend**

- Welsh-English Border
- Tan 8 SSAs
- 1.5 km property buffer

TKIF	03.10.11
Created by:	Checked by:
Date:	Rev:

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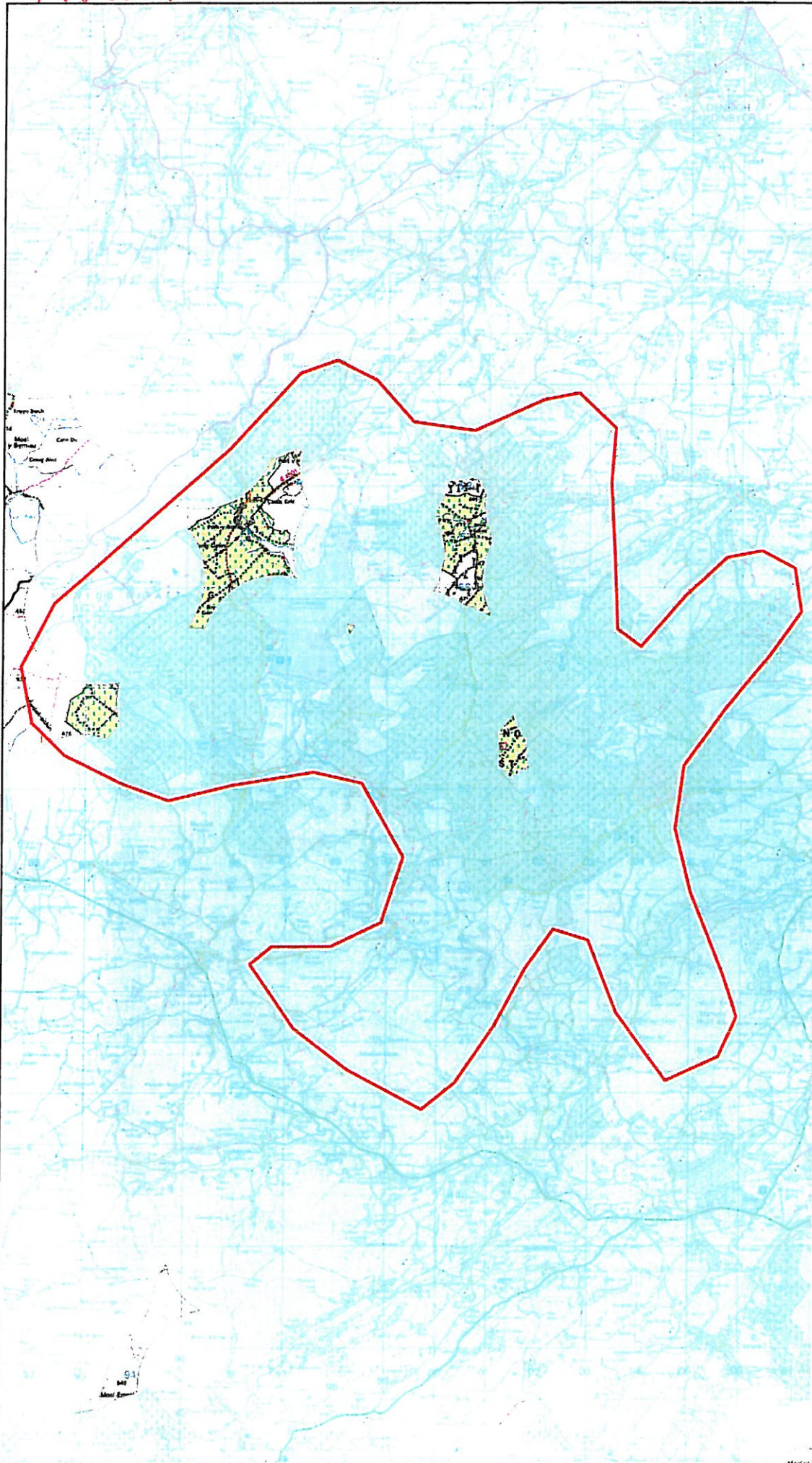


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Title:  
**Extent of the proposed 1.5 km buffer from individual properties within Wales**

Appendix 2.2



0 2,500 Meters

**Legend**

- SSAA
- 1.5 km property buffer

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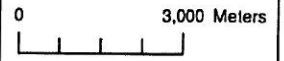
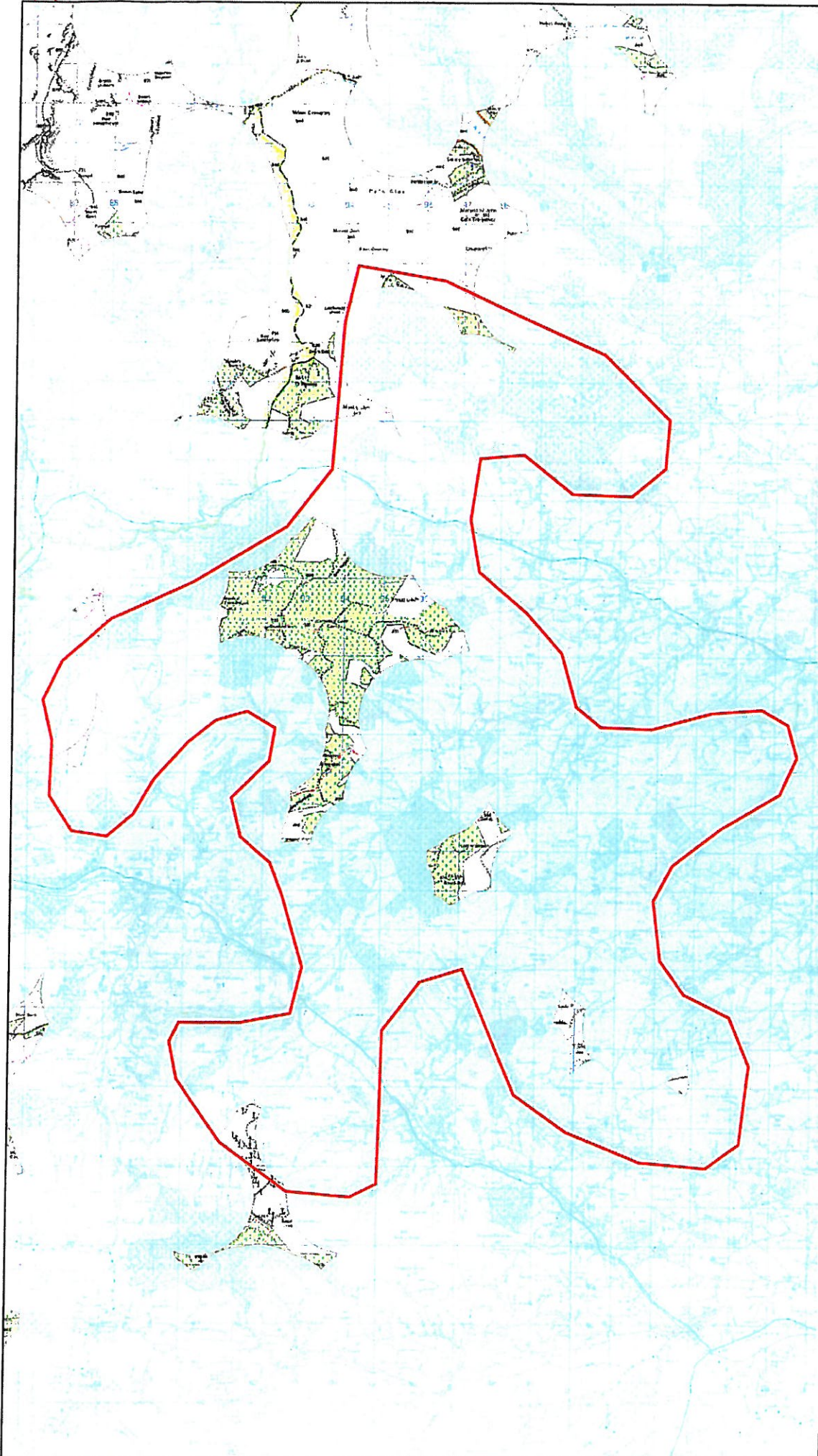


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Title:  
**Extent of the proposed 1.5 km buffer from individual properties within Strategic Search Area A**

Appendix 2.3



**Legend**

- SSA B
- 1.5 km property buffer

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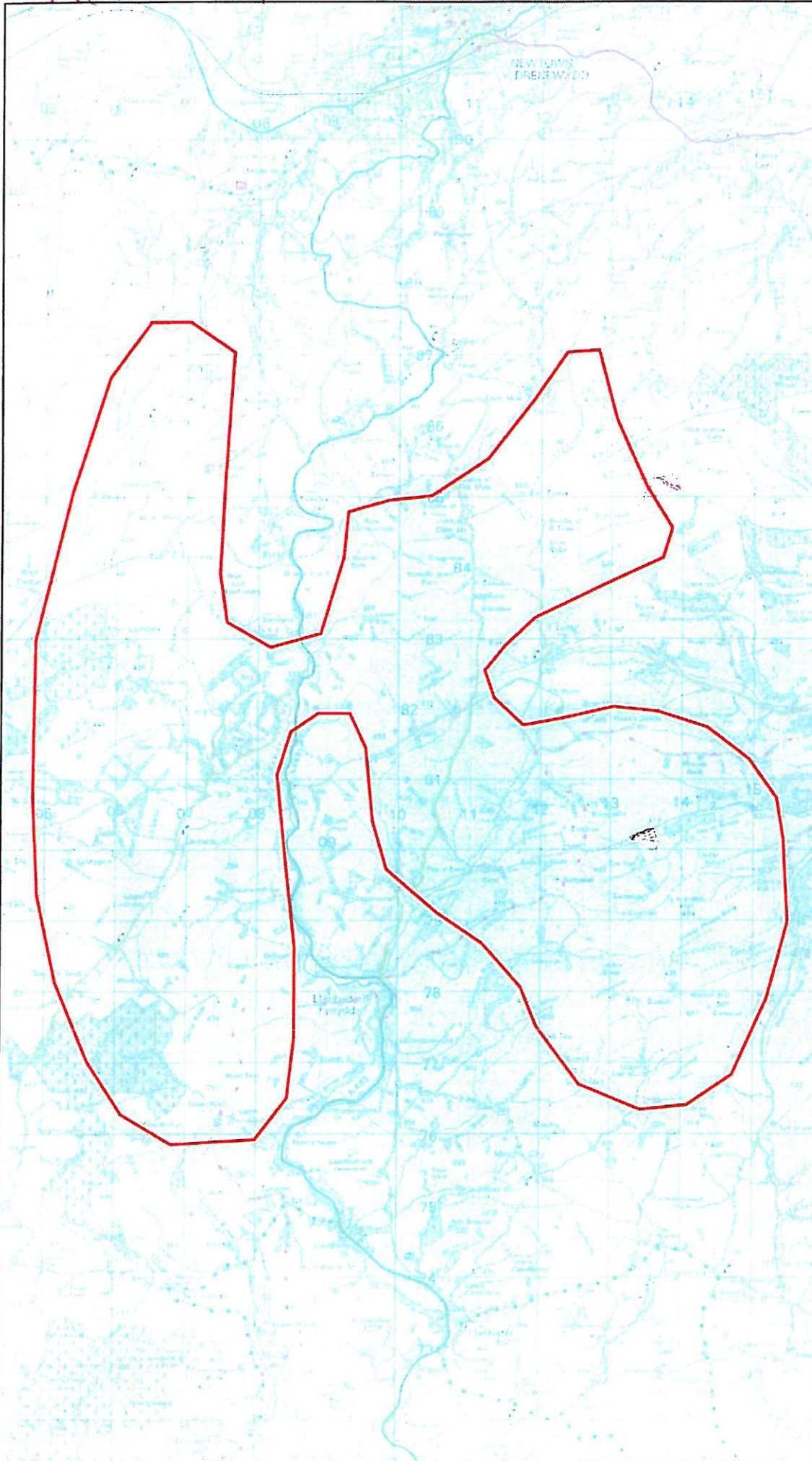


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Title:  
**Extent of the proposed 1.5 km buffer from individual properties within Strategic Search Area B**

Appendix 2.4



0 1,900 Meters

**Legend**

- SSA C
- 1.5 km property buffer

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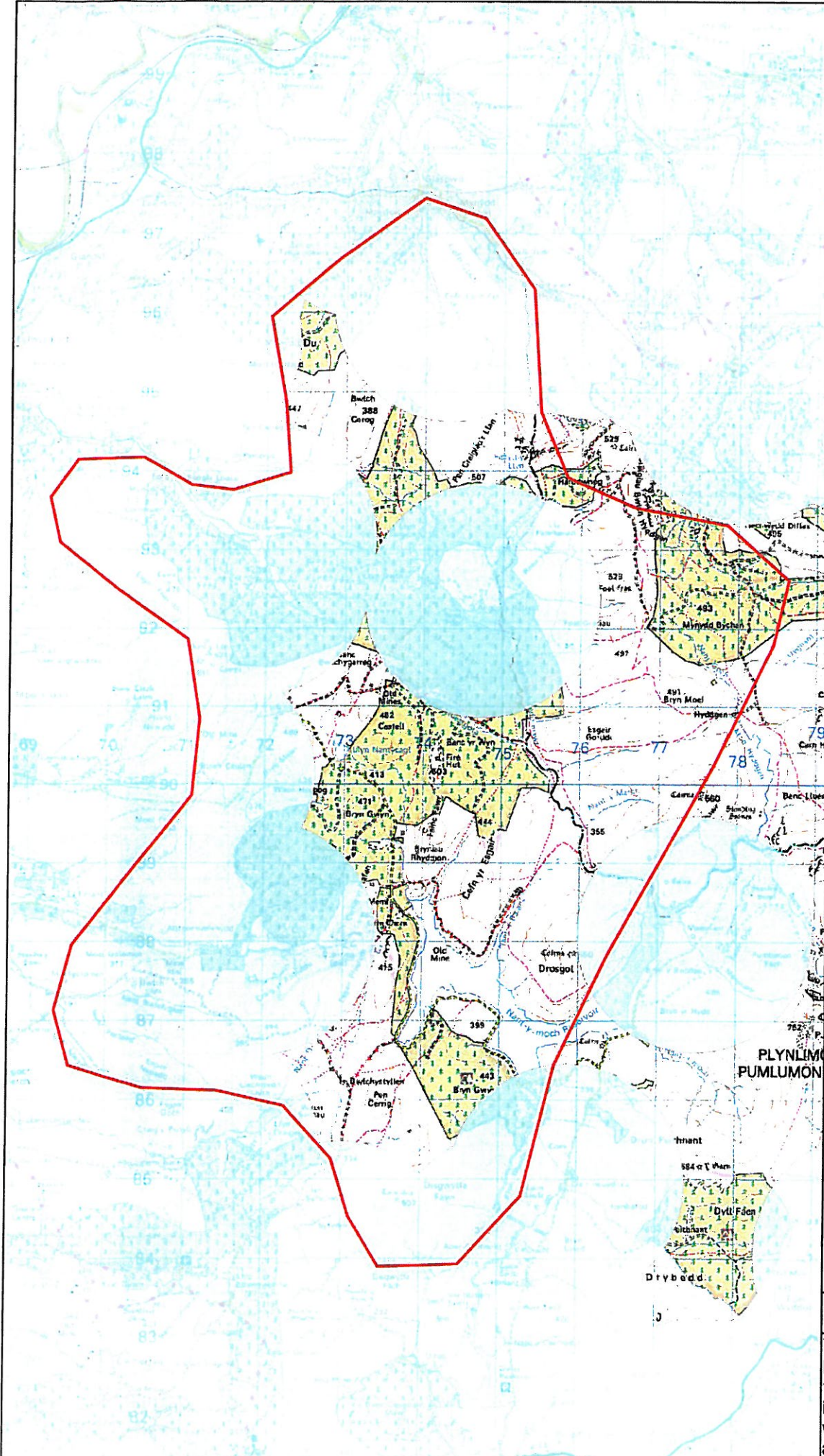
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Title:  
**Extent of the proposed 1.5 km buffer from individual properties within strategic search area C**



Appendix 2.5



0 1,500 Meters

**Legend**

- SSA D
- 1.5 km property buffer

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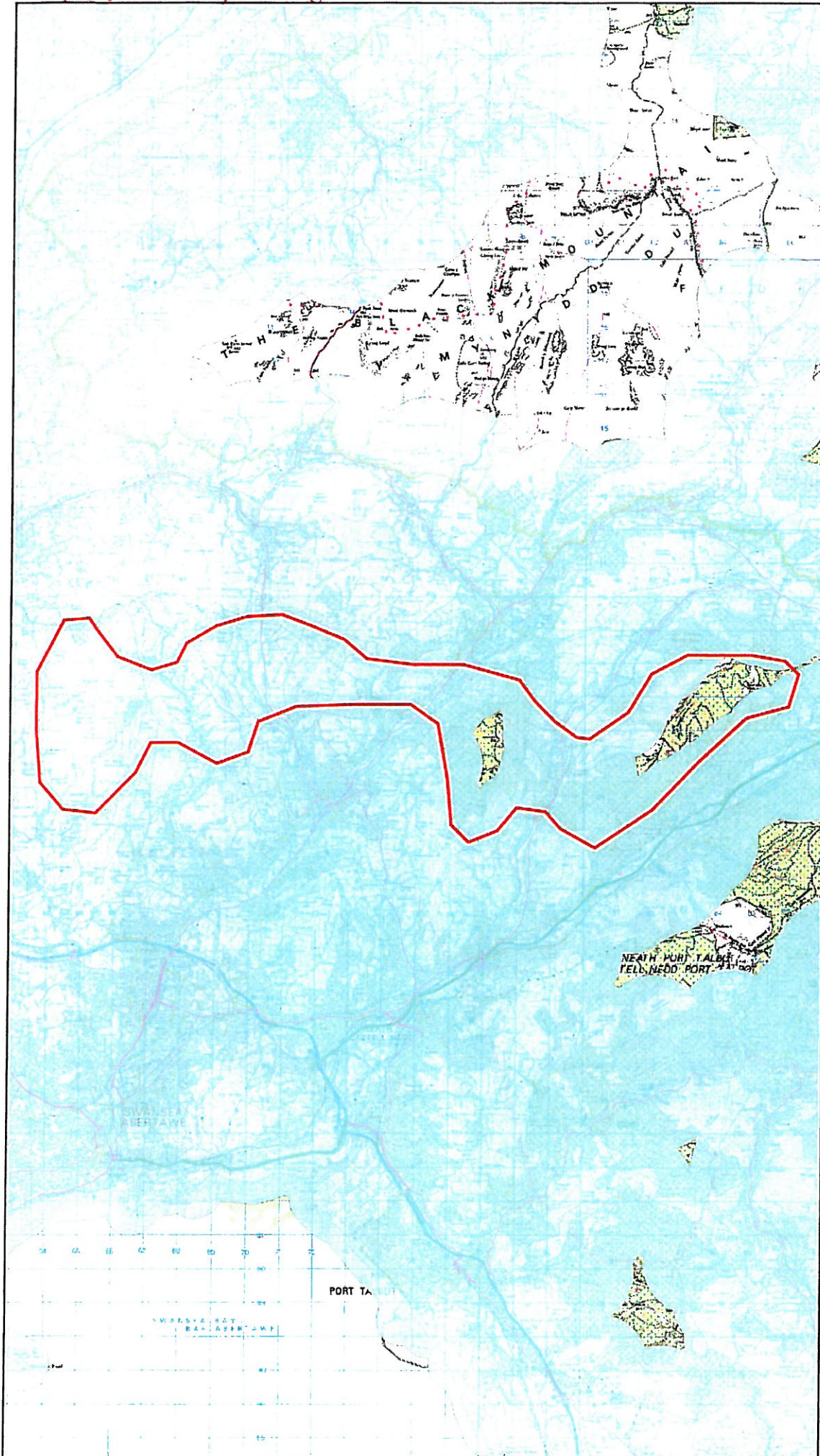


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Title:  
**Extent of the proposed 1.5 km buffer from individual properties within strategic search area D**

Appendix 2.6



0 3,500 Meters

**Legend**

- SSA E
- 1.5 km property buffer

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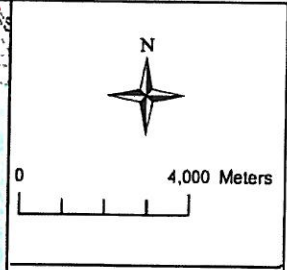
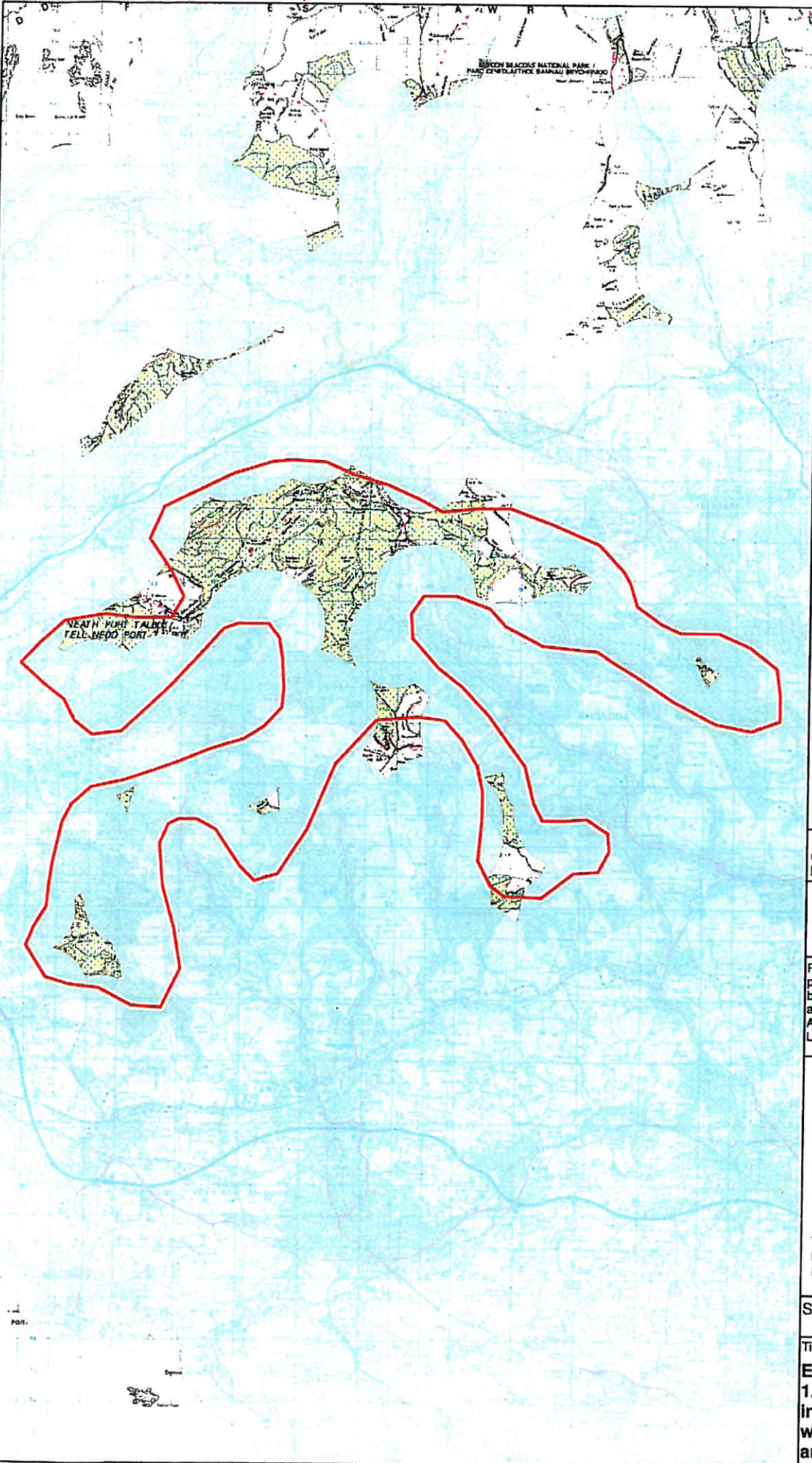


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Title:  
**Extent of the proposed 1.5 km buffer from individual properties within strategic search area E**

Appendix 2.7



**Legend**

- SSA F
- 1.5 km property buffer

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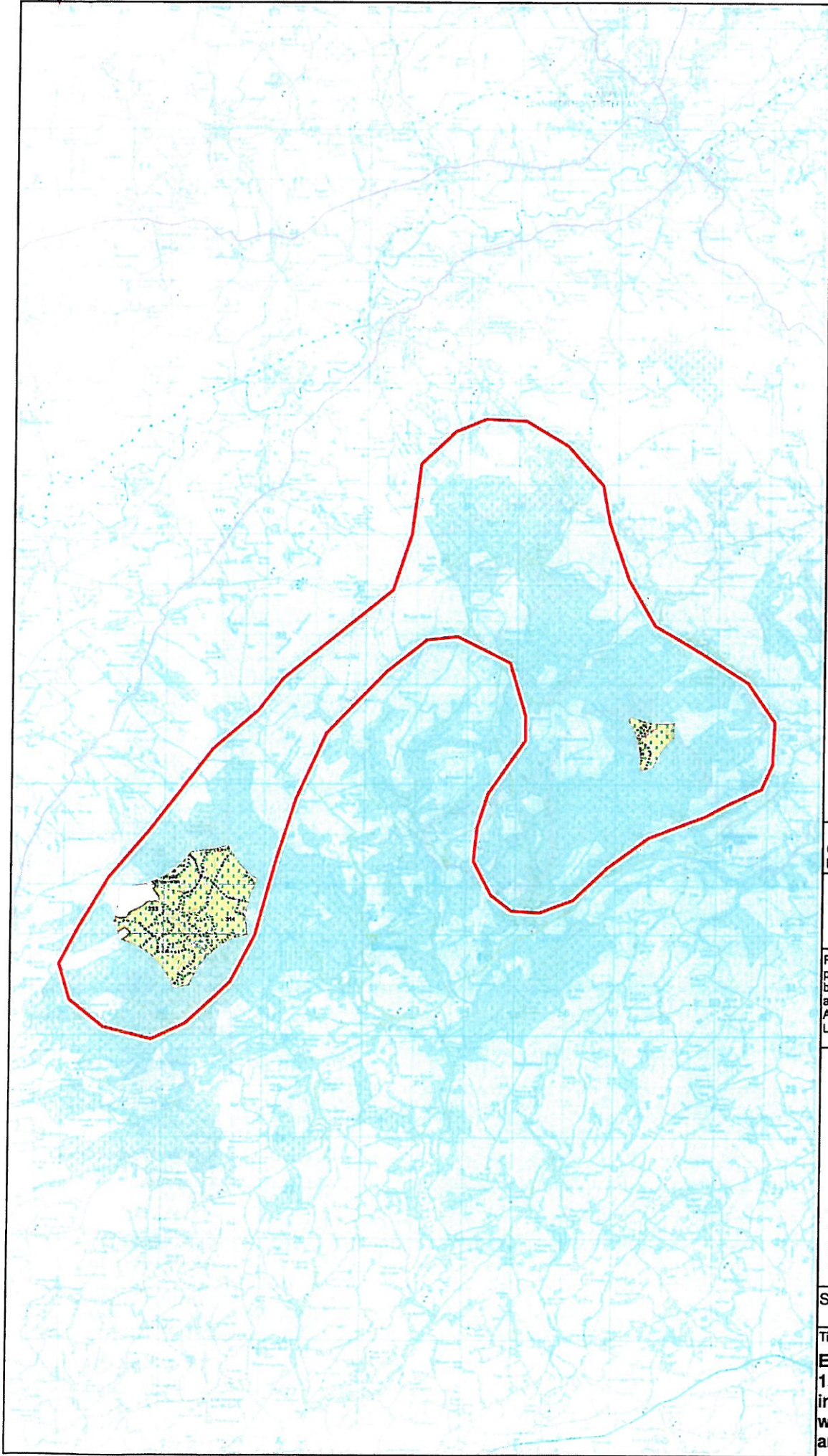


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Title:  
**Extent of the proposed 1.5 km buffer from individual properties within strategic search area F**

Appendix 2.8



0 2,500 Meters

**Legend**

- SSA G
- 1.5 km property buffer

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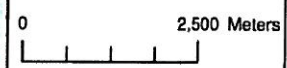
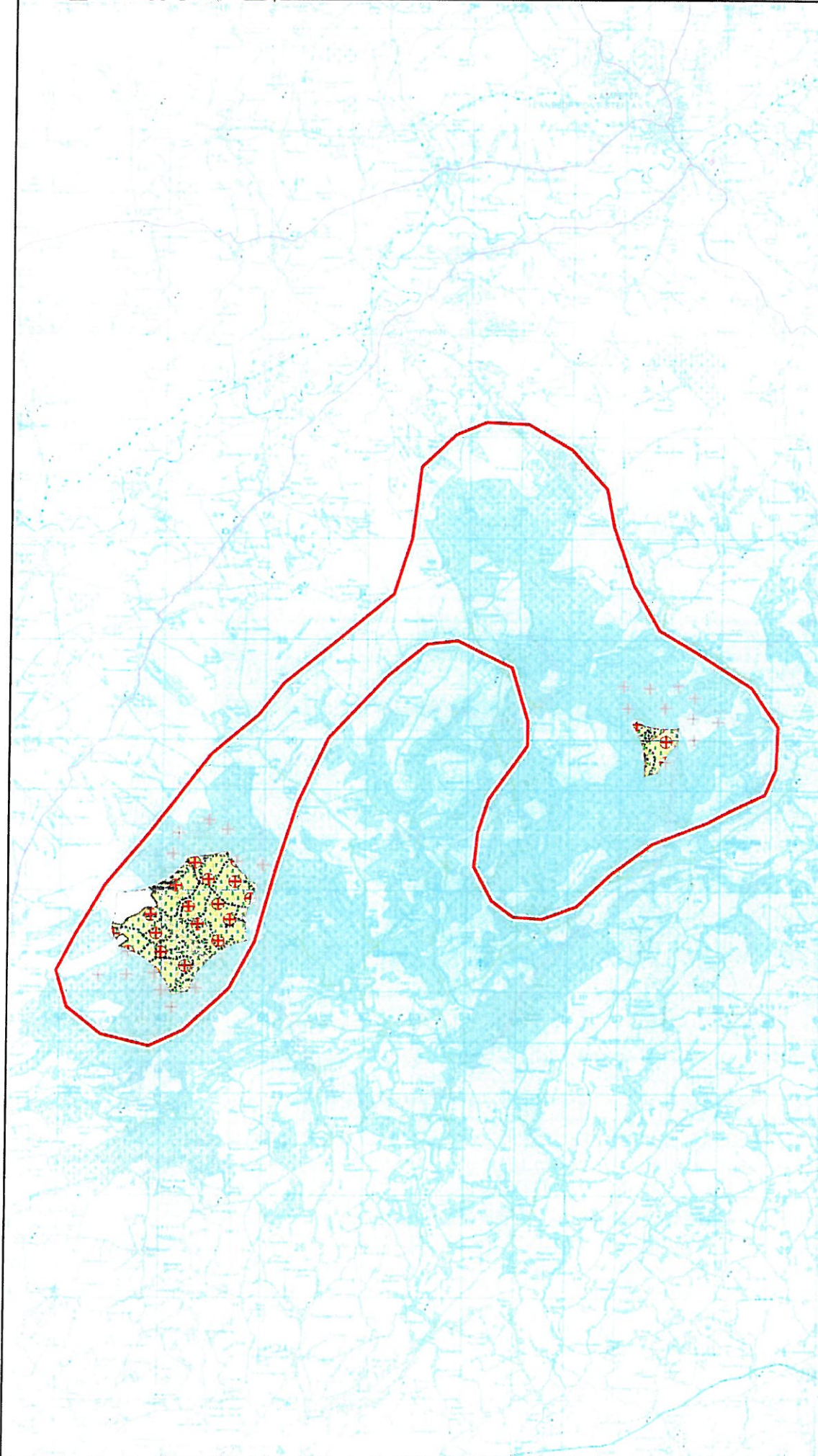
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Title:  
**Extent of the proposed 1.5 km buffer from individual properties within strategic search area G**



**Legend**

- SSA G
- 1.5 km property buffer
- ⊕ Brechfa Forest West
- ⊕ Brechfa Forest East

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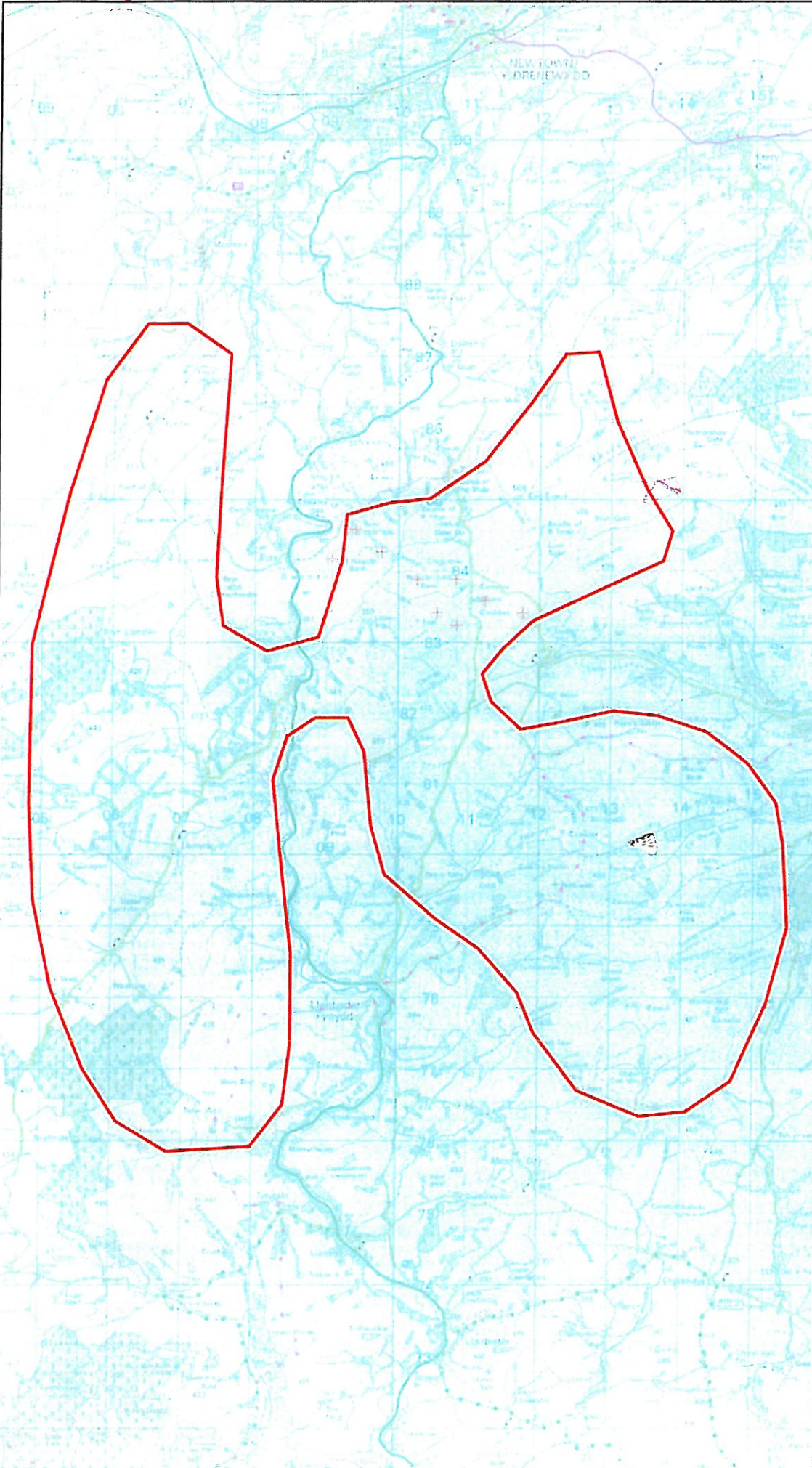


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Title:  
**Extent of the proposed 1.5 km buffer from individual properties within Strategic Search Area G**

Appendix 3.2



0 1,500 Meters

**Legend**

- SSA B
- 1.5 km property buffer
- ⊕ Neuadd Goch Turbines

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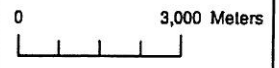
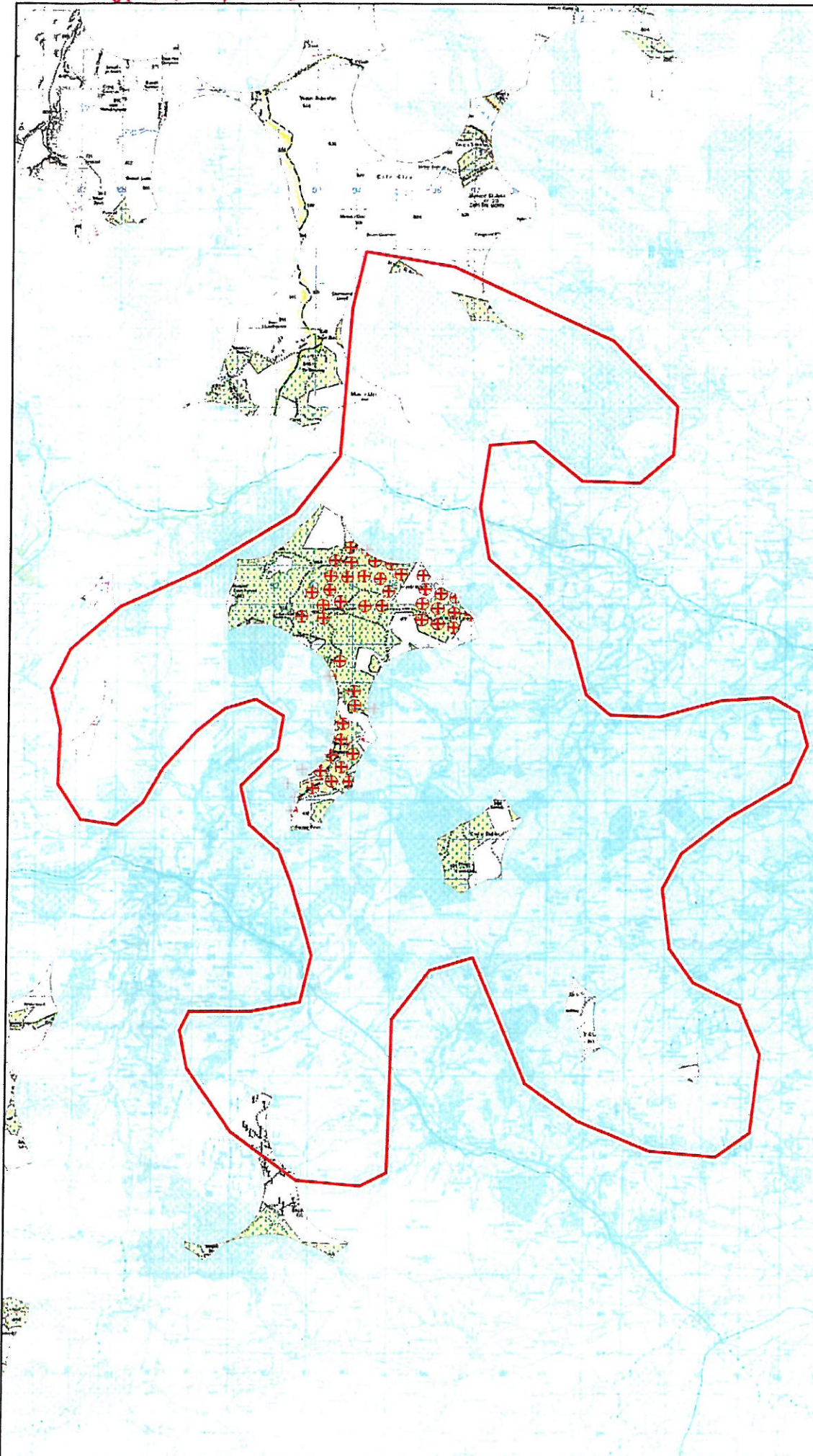
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Title:  
**Extent of the proposed 1.5 km buffer from individual properties within Strategic Search Area C**



**Legend**

- SSA B
- 1.5 km property buffer
- ⊕ Carnedd Wen Turbines

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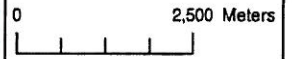
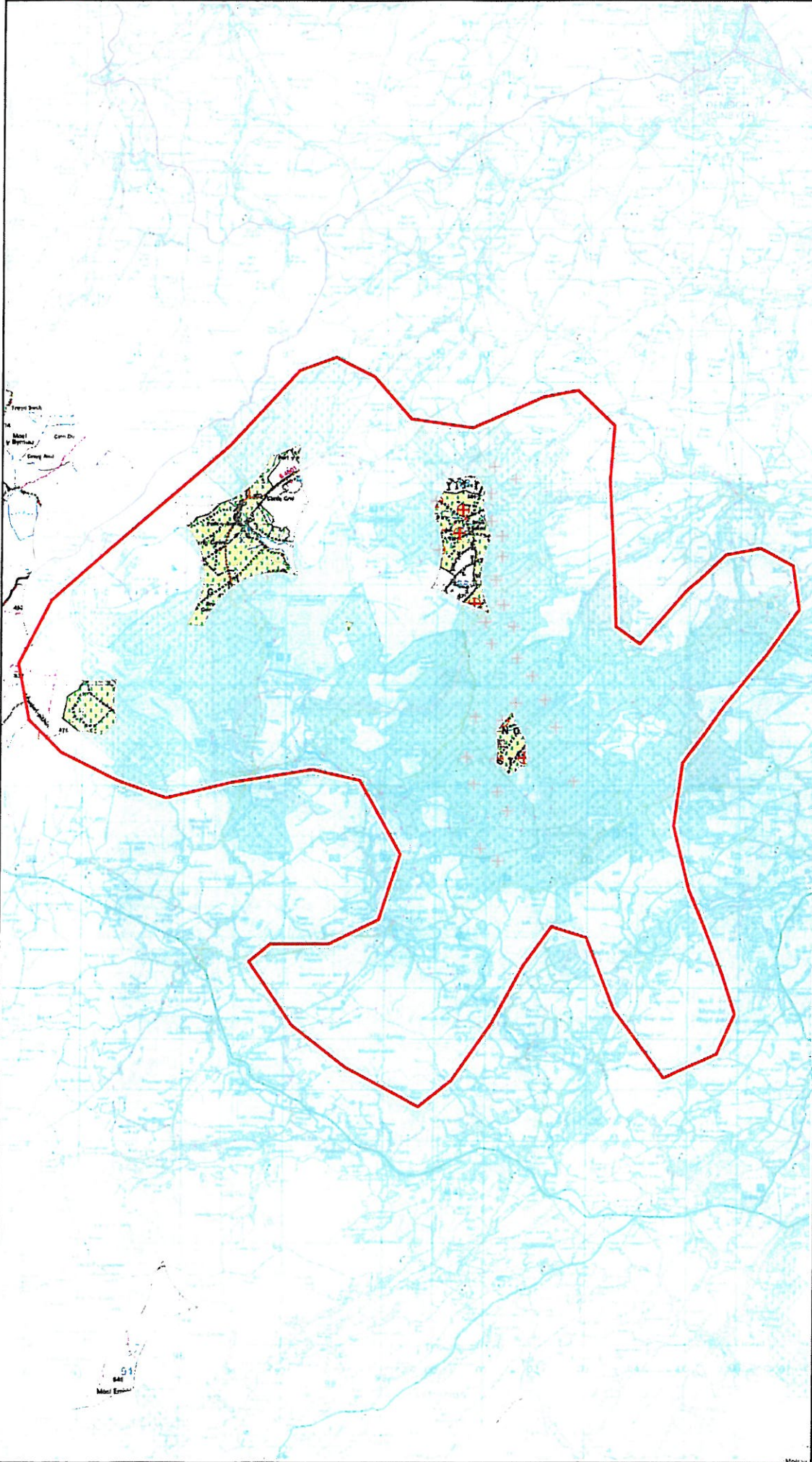
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Title:  
**Extent of the proposed 1.5 km buffer from individual properties within Strategic Search Area B**



**Legend**

- SSA A
- 1.5 km property buffer
- ⊕ Clocaenog Wind Turbine

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Title:  
**Extent of the proposed 1.5 km buffer from Individual properties within Strategic Search Area A**



FAO Clerk to the Petitions Committee  
National Assembly for Wales  
Cardiff Bay  
CARDIFF  
CP99 1NA

01/11/11

Attn. Abigail Phillips – Please forward my submission to the Petitions Committee

Dear Sirs,

Ref.P-04-329 Control of noise nuisance from wind turbines

I personally suffer from sleep disturbance caused by the intrusive noise from a wind-farm development (Alltwalis Windfarm) near my home in Gwyddgrug, and have had to make several life-style changes to try and cope with the situation.

I am grateful for this opportunity to explain how disruptive this type of noise disturbance can be, in the hope that the decision-takers and policy-makers at all levels of government might start listening and taking into consideration the impacts of this type of development on local people and save others from having to suffer the same as many of the villagers in Gwyddgrug. Even better if something could be done to alleviate our suffering as well! I have always been an optimist but the cynic in me understands that in the real world money and power will always prevail over care, consideration and common-sense.

- Firstly, the noise we suffer from is always referred to as '*alleged*'. The noise is not '*alleged*' - it exists and it *may* be compliant with planning conditions and so not a '*statutory noise nuisance*' but it is intrusive, has had a life-style impact on me and continues to wake me up or prevent me from getting to sleep in certain weather conditions
- Since the wind-farm became operational I have had to move from my bedroom at the back of the house to a front bedroom, which is directly over the main road outside my property – but the noise of the traffic is far less intrusive than the noise of the turbines – there is minimal traffic going past from 9pm to 6am and the passing traffic does not impinge on my sleep
- In Gwyddgrug we have undergone intensive noise monitoring for over 18months – covering all seasons and all types of weather. Further monitoring is pointless - this only confirms that the noise complies with guidelines etc, (ETSU Guidelines - albeit they are out of date and no longer relevant to the type of turbines now being commissioned!), and I have never been shown any evidence/data that correlates the noise I hear with the prevailing weather conditions - in addition, the data analysis report we were sent showed that

data was disregarded if one or more turbines were switched off, or if it was raining - it is often in damp/rainy weather that they are at their worst!

- I attended a 'drop-in' surgery in the village set up jointly by Statkraft, their PR Company and the local authority. At the surgery I listened to tapes and identified the noise I was hearing, described the intrusiveness of the noise in detail, and gave plenty of information about the life-style changes I have had to make. Carmarthenshire County Council Environmental Health Officers were present at the surgery but seemed to be purely observers as they didn't ask me any questions themselves and didn't appear to take notes.
- It isn't necessarily the volume of the noise that is disturbing – it is the nature of the noise – incessant, pulsing, thumping and roaring (more annoying than a constantly dripping tap or loud ticking clock) – same continuous rhythm which sometimes brings on panicky palpitations as per horror or 'Jaws' type music. It gets inside the house/bedroom and seems to bounce off the walls; it does the same inside your head, as I would imagine suffering from tinnitus might feel, and there is no escape from it but to leave the area.
- I live 2kms from the wind turbine development. It isn't just the distance that must be considered when planning these industrial-scale, potentially very noisy developments, especially in quiet rural areas, but also the topography of the land.

**Now, I have identified the noise that disturbs my sleep, I have made phone calls to Rheidol complaining that I am being kept awake, and Statkraft will have the data for rainfall, wind speed and direction, and turbine operation for those specific dates and times. As I do not phone in the middle of the night unless I am awake, and do not phone just when I can hear the turbines but ONLY when I am reaching the end of my tether from being kept awake, it doesn't seem unreasonable to me for someone to correlate this data and attempt to identify the conditions that produce the noise nuisance (statutory or not!). Then find a solution e.g. the software we have been told is available to turn off turbines in prevailing conditions!!**

For information, below is an extract from the log I have kept of the sleep disturbance I have suffered as a result of the noise from the Statkraft wind-farm development at Blaengwen (known as Alltwalis Wind-farm). Since the beginning of February 2011 I have been kept awake, and sometimes needed to phone the Statkraft operations room at Rheidol to complain, on the following nights:

7th and 8th Feb

14th Feb

16th and 17th Feb

20th and 21st Feb

29th March - phoned Rheidol 02:01am

(I had an ear infection from 31st March for 3 weeks and was almost totally deaf so was undisturbed, though I know neighbours were disturbed during that period of time)

4th May - phoned Rheidol 01:22am

5th May - tried to sleep in my son's bedroom as he was on night shift

6th, 7th, 8th May - **resulting in 6 sleepless nights in a row** - phoned Rheidol to complain – this just isn't acceptable whatever the excuse!

Turbines were off from 9th May to 14th May

21st May - phoned Rheidol 02:50 am and 11:04 am

Turbines were off again from 9th June to 16th June

26th June - phoned Rheidol 08:30 am after sleepless night

Turbines were off again from 28th to 30th June

4th July - phoned Rheidol 11:15pm - noise went on all night - didn't phone again as had an early start and a long drive.

11<sup>th</sup> & 12<sup>th</sup> July – turbines were off periodically

31<sup>st</sup> July – woken up by the noise 3:45am and awake the rest of the night – phoned Rheidol 08:15

10<sup>th</sup> Aug – woken up in the night – managed some sleep by closing all windows tight shut

12<sup>th</sup> Aug – very noisy

14<sup>th</sup> & 15<sup>th</sup> Aug – very noisy

20<sup>th</sup> Aug – very noisy in the evening – had to shut the back door and all windows – quietened down during the night

21<sup>st</sup> Aug – woken in the early hours. I was working this Sunday, but had guests to stay who were going to have a barbeque in the garden – when I phoned to see how things were going they had given up the idea due to the noise from the turbines and gone out for the day instead

24<sup>th</sup> Aug – noisy all night – all my guests were disturbed from 3am onwards – eventually we all came downstairs and watched a dvd as sleep was impossible

End of August into early Sept the turbines were off – bliss!

9<sup>th</sup> Sept – misty weather in the evening so couldn't see the turbines, but could hear them! Was woken up by them at about 2am BUT they were off again when daylight came

They were intermittently on and off through the next couple of weeks – sometimes noisy but not enough to phone through a complaint

23<sup>rd</sup> Sept – very noisy from 11pm onwards – phoned Rheidol 05:30 am after a sleepless night

26<sup>th</sup> Sept – kept awake by the noise until after 03:30am

27<sup>th</sup> Sept – very, very noisy – kept awake all night – spent a couple of hours dozing on a chair in the lounge with the TV on to drown out and break up the noise – phoned Rheidol in the morning

28<sup>th</sup> Sept – very noisy again all night – had to have all windows and doors closed – tried to sleep on settee in lounge in lounge with TV and a fan on as so hot – so much for being conservative with electricity!

29<sup>th</sup> Sept – had to close back-door and windows by 11pm – very noisy again though curiously little wind

30<sup>th</sup> Sept – noisy, kept awake – getting overtired and ‘ratty’ now with so many sleepless nights in a row

1<sup>st</sup> Oct – EXHAUSTED! Phoned Rheidol 09:58 Saturday to complain about the noise – HAVE BEEN KEPT AWAKE FOR 6 NIGHTS IN A ROW NOW!

2<sup>nd</sup> Oct – they quietened down during the day

21<sup>st</sup> Oct – very noisy again – got up to close windows 01:00am as unable to sleep

Which leads me to one final point - I am uncomfortable about my sleep deprivation and driving. Sometimes I have to drive to Bedford, Hampshire, Wiltshire, Essex, Devon and require a good night's sleep beforehand. I shouldn't be forced into a situation where I have to drive tired even to my office in Carmarthen, but I can't just tell my employer that I'm too tired to come to work! I sometimes have to sleep in my car in the car-park for my lunch break and ask colleagues to come and wake me up in case my phone alarm doesn't wake me.

If this was to be for just a few months then *maybe* it might be acceptable - but surely not for the next 25 years!

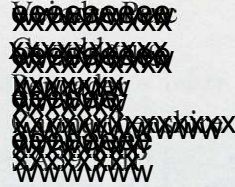
Now I am fearful of the effect of even more, even larger turbines currently going through the planning process. If planning permission is granted there will be 80+ more sited a similar distance from my home, with some in a different direction, increasing the chance of much greater noise disturbance much more often with a greater span of wind direction.

In the original Environmental Impact Assessment for the Blaengwen development local residences were referred to as ‘insignificant’.

I feel we have been treated as ‘insignificant’ ever since.

Yours faithfully,

L. R. Morris (Ms)



Committee Clerk  
Petitions Committee  
National Assembly for Wales  
Cardiff Bay  
CARDIFF  
CF99 1AA

29<sup>th</sup> October 2011

Dear Sir /Madam

**Re : Petition P – 04 -329. Control of noise nuisance from Wind Turbines**

We are writing in response to the turbine noise from Alltwalis Windfarm.

We live on the A485 road between Carmarthen and Lampeter and are used to heavy traffic. The cars etc. pass by and the noise goes with them but the noise of the turbines are with you for hours intruding on people's lives.

Since the farm started operating in mid October 2009 the noise issue has not been sorted. We are able to give you some examples of the noise we have had to put up with since the beginning and please note still ongoing.

On 28<sup>th</sup> October 2009 approximately 1.30a.m. we were woken up with a noise in our bedroom. It was a turning noise as if someone was turning a big wheel. We were unable to go back to sleep so we had to turn on the radio to drown the noise and eventually got little sleep. As both of us work fulltime, before we knew it was time to get up for work and lack of sleep can interfere with our daily work especially the type of work we both do.

On 29<sup>th</sup> October 2009 watching TV at approximately 9p.m. in the lounge at the front of the house and the noise was coming through the double glazing windows and we had to turn the volume of the TV up to drown the noise. This went on until the early hours of the morning. The distant hum was with us at around 9 a.m. on the 30<sup>th</sup> October.

22<sup>nd</sup> November 2009 morning – Noise of a steam train trying to build up steam to leave a station and was stuck in the same place unable to move. Very annoying.

4<sup>th</sup> December 2009 – Around 8.30p.m. watching TV in the front lounge and the noise was again coming through the double glazing and we had to turn the TV louder. We could even hear the noise in the back kitchen. Opened the front door on the way to bed around 10.45 and the noise was so loud it was making our head spin. I e-mail Mr. Rob Fellows Director of Quatro and our local councillor Linda Davies-Evans. Radio on again to drown the noise.

Above are only examples. We have other examples in 2010 and up to date in 2011.

In the summer we have been unable to leave the door and the windows open at times as the noise is so bad.

We like to sleep with the window a little open but since the wind farm has been operational this has had to be stopped. It shows that the wind farm dictates when to open your doors and windows.

Its not only in the night, I was clearing in the garden one afternoon during autumn 2010. I was only out there for about 30 mins and had to give up as the noise was so annoying, it was like a plane hovering over you.

As far as I am concern above comments show that the turbines are intruding on people's lives.

We have had monitors to measure the noise both internally and externally. The data was collected 4 – 6 weeks. When we heard noise (on the internal monitor) we had to press a button and it would then record for 5 mins. As we are both our working in the day we have not been able to record daytime noise.

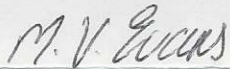
With talk about more turbines coming our way we are very, very concerned about the impact of more turbines and the issue of the existing windfarm has not been sorted.

The mature beech trees along the A485 at present are a shield between us and the visual impact of the turbines as well as masking out a bit of the noise, but with talk of another entrance 200 yards from the existing Alltwalis Wind farm entrance we will loose the trees so giving us more noise and more visual impact.

Above are only few comments. If you need more information, please do contact us.

Hope you can understand our concern and what we have to put up with.

Yours sincerely,



M.V. & J E Evans

Dear Ms Phillips

**Natural Power** is an international, renewable energy consultancy group providing expertise to the wind energy industry since the company was formed in the early 1990s. We have rapidly established ourselves as one of the leading wind farm consultants with unparalleled experience and success in development, technical consultancy, construction and asset management.

We provide Practical Consulting, Management Services and Product Innovations across the wind, marine and biomass sectors. The company, which employs over 250 staff across 7 countries and 4 continents, has worked on more than 25GW of client projects, whilst also providing extensive due diligence services on portfolios and projects on behalf of major lenders, investors and financial institutions. The group includes offshore experts **SeaRoc** and Turkish based consultancy **re-consult** and has offices across the UK, France, Turkey, Chile and the US.

We have had a growing office in Aberystwyth since 2005, working on projects across Wales and southern England and have just recruited our fourth graduate from a Welsh university to that office in as many years.

We welcome the opportunity to provide evidence in response to this petition.

1. The petition arbitrarily assumes that all large wind turbines cause nuisance and need to be curtailed in operation. There is no evidence to suggest that this is the case.
2. The petition assumes that a fixed distance of separation and operating period is the universal answer to preventing perceived problems in all conditions. In the unlikely event of there being a noise problem in any particular location there will be site specific issues that will need to be considered in arriving at a resolution.
3. There exists a very good mechanism for preventing noise problems through the EIA process and the application of ETSU guidelines through planning conditions. This allows investor and developer confidence and grants adequate protection to individuals and communities. Key to this approach is that it protects receptors by setting actual noise limits at dwellings rather than arbitrarily trying to control levels by fixing a minimum distance from source.
4. If the aims of the petition are to be applied to wind turbines, then why not to all sources of noise – traffic, livestock, agricultural operations, entertainment events, air conditioning, pets and children!
5. The renewables industry, and onshore wind in particular, contributes significantly to Welsh GDP and is expected to do so at an increasing rate over the coming decade, becoming a larger contributor than agriculture. Wales has the potential to become a world class centre for excellence and export expertise and manufactured components globally if allowed to establish an indigenous base.
6. The efficiency of wind farms will be massively reduced if such curtailment of operating hours is permitted. This will mean a reduction in electricity generation, a reduction in decarbonisation, a reduction in return on investment and a reduction in the direct financial benefit to Welsh communities through rents, rates and community funds.

7. The reduced efficiency of curtailed turbines will mean that more turbines are needed in order to hit renewable energy targets and carbon reduction obligations.
8. Reduced profitability and increased operating COSTS IN Wales would reduce investor confidence and returns and result in investment being diverted to other parts of the UK and indeed to foreign countries, with a resulting loss of jobs, economic growth and energy security.

I would be happy to discuss any aspect of my submission further.

Yours sincerely  
John Woodruff



~~XX~~

Committee Clerk Petitions Committee  
National Assembly for Wales  
Cardiff Bay  
CF 99 IAA

28/10/2011

Dear Sirs,

Control of noise from industrial wind turbine generators

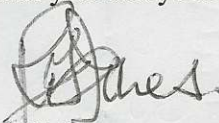
Our house is situated some 2-3 Km from a group of ten such turbines. Ever since their erection in 2008, our complaints to the local authority have been largely ignored because of instructions, which were issued by Jane Davidson A.M to that authority. I understand that the instructions stipulated that a Statutory Noise Nuisance could not be entertained, if it could not be shown that compliance with E.T.S.U. ` 97 had not occurred.

Our position is that that we have suffered many nights loss of sleep due to the noise from these machines and ETSU 97 bears no relevance. We are normally not troubled during the day, because the noise from them is ameliorated by the variable sounds of daytime activity. The situation at night is completely different. In the early hours it is the sheer constancy of the noise that drives one to distraction, and prevents one from getting back to sleep when all else is quiet. Sound levels may not be great, but the whining quality of transmission mechanisms, resonating and amplified by the pipe organ effect of the towers, together with the thumping effect of turbulence at the blade edges can clearly be heard, and is very annoying.

I understand that the ETSU guidelines were drawn for and on behalf of the wind energy industry. They are certainly not fit for purpose, and are a travesty of good governance. I believe that the only remedy would be to regulate their operating hours so that they do not operate between 23.00hrs and 0700hrs.

I hope that my observations will assist you and your committee in your deliberations and remain,

Yours sincerely



Robert F Jones

~~XXXXXXXXXX~~  
~~XXXXXXXXXX~~  
~~XXXXXXXXXX~~  
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Committee Clerk  
Petitions Committee  
National Assembly for Wales  
Cardiff Bay  
CARDIFF  
CF99 1AA

2nd November 2011

Dear Sir /Madam

**Re : Petition P – 04 -329. Control of noise nuisance from Wind Turbines**

Allwalis Wind Farm.

Myself and my son live opposite the existing Alltwalis Wind Farm and have been putting up with noise since it started up in October 2009. We started suffering from the noise when the road construction started for Alltwalis Wind farm. At times especially when they were using the roller the doors and windows of our property were shaking and rattling and have a severe headache. That is something we **DO NOT** want to go through again ever.

The farm became operational in October 2009 and 24 months on problem is still with us. Last weekend we had to suffer the noise and the only way we can describe the noise is “pounding” and is very annoying and lingers with you. The noise is at worse at night especially when you are trying to go off to sleep but the pounding and humming prevents you from doing so. With both of us out working early morning we do need a proper night’s sleep but on many occasions this has not been possible

We have been ringing Rheidol to log complaints, ringing ~~XXXXXXXXXXXXXXXXXXXX~~ Carmarthenshire County Council, having meetings to discuss the noise and to date are none the wiser. The noise is still with us. Maintenance have been made to some of the turbines but the noise is still as annoying as when it first started.

Please note another worry of ours is the proposed entrance of may be an adjoining wind farm if granted permission. The entrance will be approximately 40-50 yards from our property so you can imagine the suffering that is ahead for us after the previous experience. Why scar the landscape with another entrance when there is an existing well maintained entrance 120-150 yards further down which has served its purpose for Alltwalis Wind farm. Why cut mature beech trees and hedgerow? Why disturb wildlife? The need to keep our countryside a pleasure to live in not make is hell for the residents to have to put up with years of suffering once more.

The above are comments of which we hope you will understand.  
Please contact us if you need further information.

Yours sincerely  
*S. Thomas*  
S & J Thomas

XXXXXXXXXX  
XXXXXXXXXX  
XXXXXXXXXX  
XXXXXXXXXX  
XXXXXXXXXX

Committee Clerk  
Petitions Committee  
National Assembly for Wales  
Cardiff Bay  
CARDIFF  
CF99 1AA

31st October 2011

Dear Sir /Madam

**Re : Petition P – 04 -329. Control of noise nuisance from Wind Turbines**

Please see below comments on the noise issue of Alltwalis Wind Farm

We are farming opposite the existing Alltwalis Wind Farm.

Firstly we would like to comment on the noise issue during construction especially when the road was being made. The vibrating roller noise was so bad that we had to sit down and hold our heads as the noise was so unbearable.

Then the farm came operational in October 2009 and since then to now we have been having to put up with noise that is so unbearable at times. We have been ringing Rheidol to log a complaint but the noise has not gone away.

Another problem we have is visual impact, sitting in our kitchen/lounge we can see and hear them all.

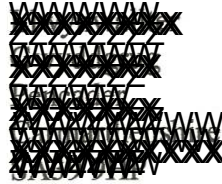
Shadow flicker is another problem which gives us a headache.

We must mention our concern regarding talks of another wind farm entrance proposed more or less opposite our property. Why another entrance when there is an excellent entrance already in use 150 yards down the road. Please think green and save the planet. We are worried already what the outcome of another windfarm would do to our quality of life. As you can imagine the noise does intrude on our day to day running of our farm. As we are farming we are up at night occasionally to see to the animals and the noise does intrude on us.

Please can you look at the above comments and if more information is needed, please feel free to contact us.

Yours sincerely,

T.M.J. & G.A.Evans



Committee Clerk  
Petitions Committee  
National Assembly for Wales  
Cardiff Bay  
CARDIFF  
CF99 1AA

Dear Sir/Madam,

Re : Petition P – 04 -329. Control of noise nuisance from Wind Turbines  
Alltwalis Wind farm

I came to live in Llwynwallter 18 months and I thought it would be a quiet area for me and my young daughter. Well, how wrong was I.

In the last 18 months the noise has not been resolved and on occasions it has been unbearable to sleep. I would describe the noise as a humming noise that is continuous and does not go away. At times I have had to turn the volume of the television higher to drown the noise. I have been reporting the noise to Rheidol and they have been logging the call.

I have also attended meetings regarding the problem, but not yet resolved.

My other concern is regarding the proposed entrance to Brechfa Forest West, the proposed entrance is only about 20 yards from my property. Why have another entrance when there is an existing entrance 150 yards down the road. This entrance has been used recently to haul change of blades and gearbox. I thought that the environment should be kept green but if another entrance will be made it does rip the countryside apart.

I hope you will take note of my comments. Please do not hesitate to contact me if you need more information.

Yours sincerely

T. Marshall

Clerk to the Petitions Committee  
National Assembly for Wales  
Cardiff Bay  
Cardiff  
CF99 1NA

**Attention Abigail Phillips : Please forward my submission to the Petitions Committee**

03 November 2011

Dear Sirs,

Ref P-04-329 Control of Noise Nuisance from Wind Turbines

I would respectfully ask the Petitions Committee to consider the points listed below, with regard to Wind Turbine noise, which arise from the recent petition, (number as above), for which I was lead petitioner.

I am a retired design engineer of industrial equipment, and have experience of controlling noise within an industrial environment, but this is of limited use when applied to a general public in what are predominantly rural environments, as pertains with those suffering from wind turbine noise. However, my working life covered a time period when Health and Safety in the workplace went from a culture of lessening inevitable accidents; to an employer's duty of care to the employee.

Noise, not considered life threatening, came very low on the list of priorities. In my native Yorkshire, industrial deafness of young women was commonly accepted as a price worth paying, in exchange for the wages available for working in the weaving sheds. We now know this was avoidable, with design and protection many a young girl could have had a better and healthier life.

Unfortunately, early scientific opinion which recognised noise as a pollutant considered that volume was the predominant problem, followed by height of frequency. Indeed the decibel scale we work to today was designed around these factors. There is the totally erroneous belief, that outside these parameters, humans have the capacity to "get used to it". Fortunately science, and public opinion, (has the petition shows), is in advance of this.

Recent research has shown that the sensitivity of the audio cortex of humans is second only to bats, however, in humans this capacity has strong psychological links to sound patterns we either find pleasant, bearable, unpleasant and unbearable. The unpleasant and unbearable are usually sounds at the high frequency end of the human hearing, at the low end of the frequency spectrum, continuous monotonous at any frequency, and repetitive or pulsating tones. In the common psyche these can be represented by chalk on a blackboard, belching, tuneless humming and a dripping tap. Wind turbine noise creates all but the chalk on the blackboard.

**Point 1** I would like the committee to consider records of historical wind turbine noise complaints, both in Wales and the throughout the UK. These will confirm low frequency discord, "growling noises"; continuous monotonous, "a car that never arrives", or repetitive and pulsating tones, "thumping noises". Sounds are often also described as being able to be physically felt, and while wind turbines are not seismically monitored and it is unlikely that seismic transfer would be possible, except on local geographic fault lines, it is a measure of the psychological interpretation

that people sensitive to the noise feel. I would also like the committee to either site visit affected communities, and / or invite people affected to present verbal evidence to the committee in Cardiff Bay.

**Point 2** This petition was written and supported because the existing system, in Wales, for noise control of Wind Turbines is not fit for purpose. The petition was written, based on the World Health Organisation report on Community Noise edited by Birgitta Berglund and Thomas Lindvall, which in turn was based on a report „Community Noise“ by the same authors from work by Stockholm University in 1995. The final report with recommendations and guidelines was published by the WHO in 1999. This is not the latest research, indeed the report draws on the research of other scientists, dating back as far as the mid nineteen fifties, but it is very important in that it acknowledges the health problems associated with noise, and guidelines for dealing with them.

The WHO report was also acknowledged by the last Westminster Labour Government when they commissioned the Hayes McKenzie report on Wind Farm noise. Hayes McKenzie used an interim 1996 WHO report as evidence that Infrasound did not impact on Community Noise, because the facilities required to demonstrate its effects were not replicated in the community, ( a position with which I would concur). Their report also agrees with the WHO report that some people were more sensitive to noise nuisance than others, but in fact makes no recommendation to protect these people. Hayes McKenzie ignores the fact that the WHO report also points out that older people are more susceptible to low frequency noise nuisance, Further, and perhaps more importantly; care must be exercised where the young, with developing hearing are exposed to unacceptable levels of low frequency noise. Neither of these recommendations in the WHO report is acknowledged by Hayes McKenzie.

Hayes McKenzie fails in that, they acknowledge the existence of noise from wind turbines, but fail to establish any health associated problems, even though the noise nuisance is generated from single sources. Their test samples were over short periods on limited sites. Sample sites were limited to rooms within domestic premises. The report, as released under a freedom of information application did not publish results of noise monitoring, or details of how they established base noise controls within the rooms. They also failed to publish instrument data, so sample times and whether there was low frequency filtering within the instrument is not apparent. There is also no detail as to the scope commissioned by the Government, and it was an opportunity missed in dealing with a very real health problem. In fact the Government Health Agencies were not consulted, which is surprising because of the health implications of noise pollution

The petition P-04-329 specifically refers to the health aspects and asks for respite periods from noise during specific times. This is in line with the WHO report. We would ask the WAG to consider this noise nuisance in a similar and more realistic way. In simple terms, it is acceptable that during day time periods the wind turbine noise source has less effect. Other ambient noise from traffic etc. may mitigate the three noise components described above, and the noise levels allowed under ETSU97R while being an upper limit, would not constitute a health nuisance. However, the petition asks that two respite time periods are strictly observed. The first from 18.00 Hrs to 22.00 Hrs, and the second overnight from 22.00Hrs to 06.00 Hrs. The overnight period is discussed in Point 3 below, and the 18.00 to 22.00 period is discussed in Point 4.

It is felt that this system would be fair, both to the rural resident and the wind turbine developer, without impacting on renewable energy production. It would remove local government environmental health departments from the responsibility of monitoring noise levels out of office hours. It would reduce the amount of complaints to local governments, (These complaint levels are

artificially low, because many people fear they will jeopardise future house sales by raising a dispute, which they would be legally obliged to disclose to future purchasers. See point 5).

**Point 3** I would ask the committee to consider the time period between 22.00 Hrs and 06.00 Hrs as in practical terms being the time used for rest. Noise disturbance at this time can predictably lead to sleep disturbance and sleep deprivation. It is standard practise for places like Heathrow Airport to suspend flight operations overnight, to protect not only those residences directly under the flight path, but all the other residences close to the area of operation. Similarly, construction work is suspended in suburban areas when it generates noise, even construction of something as prestigious as the Olympic Venues had to comply with noise respite periods. Industrial operation near domestic premises can be subject to strict noise legislation. BS4242 (see point 6) is legislation which is applied in the UK for noise disturbance from industrial operation, and is much more time specific and weighted against the polluter. Mr. Dick Bowdler, one of Britain's leading wind turbine noise experts believes that BS4242 should be applied to wind turbines within 2 Km of domestic premises; and if the common sense proposal is advanced here fails, then I would agree that a stricter overall noise control should be adopted. However, the WAG should be aware that the costs of implementing specialist monitoring required, not only on existing sites, but on those in planning will require budget increases to Environmental Health Departments, and any degree of self certification by developers would be outlawed.

The 2 Km wind turbine exclusion zone enjoyed by the rural areas of Scotland is recognised as being the most effective in Europe. Scotland was (lucky?) to have the Highland clearances in their rural areas, which has left vast tracts of uninhabited area for wind developers to exploit, and a 2Km exclusion zone to be applied. In Wales the stubborn tenacity of the natives, resisting being starved out, and having a much more equitable share of land title means that the land of our fathers was owned by our fathers, and the vast tracts of land area which allow 2 Km exclusion are not available. Even given the dubious acquisitions of the Forestry Commission in the early to mid twentieth century, domestic premises still impinge on the massive areas commercial wind operations require. There is no reason why, for the important eight hour rest period in the 24 hours of the day; that residences and communities within 2Km of a wind turbine should not enjoy the same exclusion zone as our Scottish brothers.

I would propose:

- A. All turbines within a 2Km exclusion zone of communities, or any part of communities are turned off between 22.00 Hrs and 06.00 Hrs daily.
- B. The developers of existing wind farms are fully compensated for the electricity which would have been generated. Compensation levels for future developments would be set by DECC has they hold central control of wind farm development in Wales.
- C. The electricity which would have been produced by the turbines affected, would have been fed onto a grid awash with capacity, from conventional suppliers. The time period we are looking at, is the base load, or off peak time. The intermittent nature of wind operation means it cannot replace the constant loads required by base load. So the electricity the turbines produce during our rest period normally has no commercial value, so the compensation provided in B is at no extra cost. Indeed there are many instances where wind turbines are stopped to protect the grid from overload,(see point 6). Stopping them to avoid sleep deprivation of rural Welsh residents when the operation can be carried out in a cost neutral manner, without endless testing and subjective arguments, would seem churlish. To prove this point I would urge the committee to consult the National Grid to see if at any time wind energy needs on base load time, even should intermittent load factors change, will be more than supplied by offshore turbines, which are not affected by noise emissions.

- D. The advantages to the wind turbine industry would be, that the turbines, which are a mechanical device with a life set at 25years, would have that life extended to 33 years, with fewer maintenance periods and the ability to earn more within the day time periods. If this health issue was adopted in England, turbines could be deployed on brown field sites, (on Industrial estates, alongside motorways etc.), where high ambient day time noise would absorb the turbine noise, and the overnight null period would protect local people. These are the areas which need the electricity produced by the turbines and infeed to the grid would be local to the turbine, avoiding the requirement for pylons and overhead cables.
- E. The advantages to the rural resident is that the possibility of noise pollution disturbing rest periods would be over. Arguments with Environment Health Inspectors would not be required. Costly council monitoring would not be required. A strong positive law would stabilise house prices, reducing potential purchaser's fear of the unknown, by removing the potential for noise in rest periods. Stresses on family life would be removed.

**Point 4** This relates to the time period between 18.00 Hrs and 22.00 Hrs. This is the period of the day when families enjoy leisure and use of their gardens, land and surrounding areas. Children do homework, and relaxation listening to music, watching the television etc. It is important that this time is free from noise pollution.

This only relates to premises within 1500 metres of wind turbines. Some County Councils are setting 1500metres as exclusion zones through their LDP's, but this leaves a swathe of properties already affected, and as the IPC may override such a rule on developments over 50MW, it is important this matter is addressed.

Again the reason for this application for legislation is on grounds of health and enjoyment of a resident's domestic environment. In this case however, it is accepted that electricity produced in this time frame is within normal peak load, and a test for noise nuisance would be required.

This would also, under present circumstances, require Environmental Health Officers to be available outside normal working hours, and impact on their enjoyment of normal family life. Therefore, I would suggest that the test be automatic.

I would suggest a standard „listening“ post which would monitor wind turbine noise against a null level taken in the early evening hours. If the noise generated exceeded 2.5 decibels for more than 1 minute in any 30 minute period the adjacent wind turbine/turbines would be turned off. The listening posts would be situated in a position designated by a WAG noise specialist between 5 and 6 turbine to blade tip lengths from the turbines themselves. The exact listening post specification, and standards, would have to be agreed with Environmental Health in WAG.

Again, on existing installations loss should be fully compensated, as in point 3 (B) above, there would be a small cost element here, which would be far outweighed by the health protection of the families involved. As in Point 3 (B) above DECC would be responsible for setting the compensation level on new developments.

**Point 5** Both Jonathan Edwards MP Carmarthen and East Dinefwr and Rhodri Glynn Thomas AM endorse shutting off wind turbines at night. They did this in a widely distributed joint 10 point declaration on Wind Farms last year. This was fully endorsed by the people of Alltwalis and Gwyddgrug, who suffer most from wind turbine noise. Their declaration called for the closing of



wind farms at night, where my proposal relates to individual turbines within a specific exclusion zone. The degree of complaint from these villages to Carmarthen Environmental Health is far less than the actual complaints within the villages. This is due to many people believing it to be a waste of time, people who anecdotally have heard that the Environmental Health department are unsympathetic to their plight, and many people who fear raising a complaint will affect their ability to sell their property, because it will be viewed as a dispute, under the new sale of property rules.

**Point 6** Evidence on the joint declaration in point 5 above, opinion on the value of off peak wind power, and evidence of periods when wind turbines have been turned off at the request of the grid due to oversupply can be produced if required

J.M. Shepherd Foster

Thursday, 03 November 2011

Jonathan Lincoln  
Sustainable Energy Alliance (SEA)

September 30<sup>th</sup> 2011

Dear Clerk to the Petitions Committee,

I wish to take issue with the recently submitted petition calling for the Welsh Government to pass a statute controlling the noise nuisance from wind turbines during anti social hours.

I have visited many wind farms, both on and offshore and would say that any noise generated from turbines really is not an issue, yet those opposed to wind power persist in their claims that wind farms are noisy. The question has to be asked, how many of the 1000 or so people who signed this petition live close to or have actually visited a wind farm?

Studies into wind farm noise and how it may affect local residents have been carried out by the UK government. In August 2007, the UK's most comprehensive study into the sound created by wind farms, concluded that, "despite arguments to the contrary, the incidence about noise is low." Acoustics researchers at Salford University investigated complaints of the noise created by Aerodynamic Modulation (AM), a phenomenon sometimes compared to the sound of a distant train. It was discovered that the number of complaints about noise from wind turbines is relatively insignificant compared with noise complaints about other sources. The study found that 239 formal noise complaints over a 15 year period (an average of just 16 a year), for the whole of the UK were made in respect of wind turbines, this compares with a national average of 300,000 per year for noise complaints in general.

Based on the University's findings, the Department for Business Enterprise and Regulatory Reform (DBERR) considers "this matter not to be an issue for the UK's wind farm fleet," nor does it consider that "there is a compelling case for more work on AM at this time."

The Salford University report followed another study, concluded in 2006, also commissioned by the DTI (now DECC), known as the Hayes McKenzie Report. This concluded that there was no evidence of health effects arising from low frequency noise or infrasound generated by wind turbines.

It is crucial that the Welsh Assembly Government stands by its TAN 8 commitments. The seven Strategic Search Areas (SSA's) across Wales, all offer a good wind resource (typically above 7 metres per second), generally sparsely populated, dominated by conifer plantation and/or improved/impooverished moorland and have a general absence of nature conservation or historic landscape designations.

Wind farms in the UK are an essential part of our efforts to combat man-made climate change by offsetting carbon dioxide emissions that would otherwise be produced by fossil fuel power generation, furthermore wind power must and will play a vital part in our energy mix alongside other renewables such as wave, tidal, solar and energy efficiency. The UK has a commitment to international legally-binding carbon emission and renewable energy targets and these must be taken seriously

The UK has 40% of the European wind resource and the potential to be a world leader in this technology. Yet we are falling shamefully behind other countries when it comes to exploiting this truly sustainable and environmentally benign way of electricity generation. The publication of the Intergovernmental Panel on Climate Change (IPCC) report into climate change adds to the already compelling evidence that global warming is happening and the severity of the consequences we face if we do nothing to address the situation.

With kind regards,

A handwritten signature in black ink, appearing to read 'Jonathan Lincoln'. The signature is fluid and cursive, with the first name 'Jonathan' written in a larger, more prominent script than the last name 'Lincoln'.

Jonathan Lincoln

Coordinator Sustainable Energy Alliance [www.se-alliance.org.uk](http://www.se-alliance.org.uk)

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Our Ref: NF/1291/PL/CR

3<sup>rd</sup> November 2011

Dear Sir,

**Petition on Control of Noise Nuisance from Wind Turbines**

I refer to the above mentioned petition and write to set out the comments of West Coast Energy Ltd (WCE).

West Coast Energy Ltd is a Welsh company and one of the leading independent onshore wind developers in the UK. The company was established in 1996 and operates throughout the UK and have recently expanded operations into Europe. West Coast Energy Ltd falls within the West Coast Group which comprises Atmos Consulting (an environmental and renewable energy consultancy), the Low Carbon Energy Company (a micro renewable energy developer and installer) and WCE Network Services (arboreal cutting services to the Distributed Network Operators (DNOs)).

We are presently involved in developing hundreds of megawatts of onshore wind power generation, and to date have been involved in the consenting of over 650MW of wind farm capacity.

The detailed comments of West Coast Energy are set out below and I would be grateful if you would take these into account in finalising the guidance.

Yours faithfully,



**Neil Foxall BA (Hons) MCD MRTPI**  
**Development Planner**  
**West Coast Energy Ltd**  
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## Petition on Control of Noise Nuisance from Wind Turbines

### Evidence from West Coast Energy Ltd

#### Introduction

In order to understand the thrust of the petition, it is important to firstly understand the current planning policy within Wales which strongly supports onshore wind energy. The policy context in Wales is set by the introduction of TAN8, Planning Policy Wales 2011 and the 2010 Energy Policy Statement, which radically increased the renewables target for 2025 to 22,500MW of installed capacity of renewables. This corresponds to the UK Government's Renewable Energy Strategy publication and greatly increased UK national target figure of at least 30% of electricity from renewables by 2020. Planning Policy Wales 2011 states that planning policy at all levels should facilitate delivery of both the Assembly Government's overall Energy Policy Statement and UK and European targets on renewable energy.

John Griffiths, the Minister for Environment and Sustainable Development issued a guidance letter to Stakeholders in July 2011 reaffirming WAG's position that TAN8 will continue to be used as the vehicle for the strategic delivery of onshore wind throughout Wales, but instead of using the indicative targets set out in TAN8 of 2005, the figures to which everyone should be working to, should be the figures assessed by Garran Hassan as being the *maximum* capacities of the SSAs. These figures added together would yield about 1700MW of onshore wind capacity.

National Policy Statement EN-3 "Renewable Energy Infrastructure", sets the background at a national level for guidance and policy for onshore wind energy and is to be used by policy makers, primarily but not entirely, dealing with >50MW schemes in Wales.

#### Noise Guidance

Planning policy guidance in Wales, primarily TAN8<sup>1</sup> and NPS EN-3<sup>2</sup> recommends the use of ETSU-R-97 as the primary guidance to assess noise from wind farms. It provides robust and appropriate noise limits for wind farms based on the individual character of an area including its baseline noise levels; topography; the size and numbers of turbines. The guidance is used successfully to ensure levels of noise from wind farms are acceptable.

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<sup>1</sup> Welsh Assembly Government, Technical Advice Note 8, Annex C, para 2.16, pg 37

<sup>2</sup> Department of Climate Change, National Policy Statement EN-3, para 2.7.55, pg 69

The application of ETSU-R-97 guidance by the developers and local planning authorities allows them to include planning conditions on decisions, setting appropriate noise limits and thus safeguarding against the possibility of noise becoming the nuisance for the local area.

ETSU-R-97 defines limits for both 'Quiet Day' and 'Night Hours'. For these times an appropriate limit is devised, based upon the individual character of an area (using existing baseline noise determined by a period of noise monitoring) and criteria for the protection of amenity. ETSU-R-97 recommends a limit based upon the measured background noise level plus 5dB or an overall limit of 35dBA L90 (day) and 43dBA L90 (night), whichever is the greater.

This is in agreement with the commonly used standard BS4142: *Method for rating industrial noise affecting mixed residential and industrial areas*, 1997 which states that if the difference between measured background noise and the rated specific noise is around +5dB then the impact is of marginal significance. For very low background noise environments (<30dBA) ETSU-R-97 recognises a minimum low level to which the limit can drop. These limits are **external** to the residence being protected.

In comparison the World Health Organisation (WHO) recommend **internal** values of 30dBA Leq for sleep preservation. The external ETSU-R-97 Quiet Day limit of 35dBA L90 equals 37dBA Leq and, allowing for a reduction of 15dB for an open window, would result in an **internal** noise level of 22dBA Leq – which is lower than the WHO recommendations. The ETSU-R-97 External Night Time Limit of 43dBA L90 equates to a Leq of 45dBA. Allowing for a 15dB reduction for an open window (permitted by WHO), this gives an internal noise limit of 30dBA Leq which is the same as the latest recommendations by WHO for community noise, as mentioned above.

The WHO recommends 55dBA Leq for external areas such as terraces to protect the majority of people from being annoyed and 50dBA to protect the majority of people from being moderately annoyed during the day time; although in practice most European countries have adopted 40dBA Leq which equates to 38dBA L90. For comparison, the ETSU-R-97 absolute Quiet Day limit is lower at 35dBA L90.

On the rare occasion that an unforeseen noise issue arises from an operating wind farm, this can be addressed under the auspices of the Environmental Protection Act of 1990 and the Noise and Statutory Nuisance Act 1993 through the serving of a Control or Abatement Order or by the LPA issuing enforcement action under the Town and Country Planning Act 1990 for breach of noise planning condition/s. These would result in a wind farm, or certain wind turbines within a wind farm, being switched off for specific periods of time as deemed necessary to control any noise nuisance.

It is the view of West Coast Energy Ltd, that the combination of ETSU-R-97, and relevant legislation provides a proven and robust level of control that protects local communities. It also gives confidence to wind farm developers/operators that any noise concern will be dealt with using a method that has been developed by experts and provides safeguards for individual projects to address specific concerns. It is important to note that developers would not promote onshore wind developments into the planning system (after already occurring significant cost) which do not meet ETSU noise limits, as they would not gain permission and lose their investments.

It is considered that the current legislation, controls and guidance work. ETSU-R-97 is effective which is demonstrated by the fact that there are relatively few noise complaints arising from wind farm sites in the UK. Therefore, there is no evidence to suggest that any further protection is required. Furthermore, a report entitled “Research into aerodynamic modulation of wind turbine noise” by the University of Salford, 2007 found that only 27 of 133 operating wind farms in the UK had received complaints. There were an estimated 239 formal complaints since 1991, of which 152 were from a single site, and only one site was upheld as a statutory nuisance. In comparison, complaints related to industrial noise alone for the same period for 69% of councils from England and Wales, totalled 286,872. 1401 of these were considered a statutory nuisance (source: Chartered Institute for Environmental Health). It is clear that there is no widespread noise nuisance caused by wind farms that requires special consideration.

### **Respite periods**

The World Health Organisation (WHO) is also mentioned in the petition. Its guidelines on noise levels at night, published in October 2009 recommend external and internal noise guidance levels, which are reflected by the limits given in ETSU-R-97. Current guidance is therefore in accordance with the WHO’s guidelines. Respite periods are currently used for

areas of a known noise nuisance, such as Heathrow airport and it is considered that it would not be appropriate to create respite periods for wind farms where noise nuisance has not been established and current legislation and guidance is followed and complied with.

### **Turbine size and capacity**

The capacity rating of a turbine cannot be used to accurately predict or determine noise output. Significant improvements in wind turbine generating capacities have not resulted in a comparable increase in noise from wind turbines. Indeed current turbines on the market below the 1.3MW threshold can in fact produce more noise than a larger 2MW machine due to a number of factors such as improved technology.

The petition's proposed criteria are arbitrary and take no consideration of other factors such as topography and existing levels of background noise. The background noise in an area should be used to determine the limit of sound emissions from a wind farm, not the generating capacity of the turbines. Furthermore, the total noise emissions from a large number of small capacity turbines can be the same as that from a few large capacity turbines.

### **Buffer zones**

The petition states that any 'respite period' should apply to turbines of capacity 1.3MW or above within 1.5km - 2km of a community or residence. Such a criterion for the siting of turbines is not appropriate in our view, as it does not take account of the actual noise effects of a turbine or wind farm, actual background noise levels, or local topography which can also affect how far noise travels. It is considered that if a turbine or wind farm meet the ETSU noise limits at each noise sensitive property, this will provide enough protection against any deemed 'noise nuisance'

### **Impact of petition on renewable energy**

Wales has already acknowledged it has missed its TAN8 target of 800MW of onshore wind installed by 2010 – currently only 175MW is installed and even if all consented projects were built, this would only result in about 400MW. Installed capacity, however, becomes a less meaningful measure if projects are unable to run for 50% of the time – what is important is TWh generated. With targets of 4TWh generated per annum by 2010 and 7TWh generated per annum by 2020 it is difficult to see how the targets will be met even if TAN8 projects in development did continue to be progressed, as most of their outputs would be restricted by



50%. With more attractive markets elsewhere, investors are less likely to look to Wales as a viable place to invest in wind farms. It may become difficult for Wales to attract renewable energy developers into the country to develop new projects in the future.

Any reduction in development of onshore wind in Wales would also have a negative effect on those Welsh businesses looking at supply chain opportunities in the renewables sector and subsequently, any associated jobs. The renewables sector already provides 1000 full time equivalent jobs in Wales and £160m to the Welsh economy and is forecast to contribute £1 billion to the Welsh GDP by 2020. If Wales is made a significantly less attractive place to invest in renewables, we would expect these figures to reduce significantly.

### **Conclusion**

Existing guidance, in the form of ETSU-R-97 and its associated documents, works effectively in protecting communities from wind farm noise. Where exceptional circumstances require further action there are clear and effective methods of dealing with the situation through the Environmental Protection Act of 1990, Noise and Statutory Nuisance Act 1993 and the Town and Country Planning Act 1990.

There is no evidence that there is a problem in Wales caused by wind farm noise. There is, however, considerable risk to both Welsh and the UK renewable energy targets and economic investment in Wales should this petition be progressed further.

~~XX~~  
William Powell A.M.  
Chairman, Petitions Committee,  
National Assembly for Wales,  
Cardiff Bay CF99 1AA

Nov 1<sup>st</sup> 2011

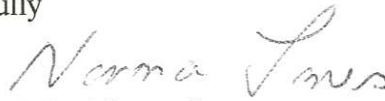
Dear Sir,

Control of noise from wind turbines

We have lived in this property very happily from 1968 until October 2009, when ten 110 metre high turbines became operational some two kilometres away. Since then there has been an almost constant humming noise together with the whoomph of the blades. During the day extraneous noise mitigates this nuisance to some extent, but at night it has been sufficient to disturb and deprive us of sleep on many occasions. We are told by the local authority that the company complies with the E.T.S.U. guidelines, despite Statkraft admitting that noise problems do exist. I feel the ETSU guidelines are not fit for purpose when turbine size and numbers have greatly increased in recent times. For our family the level of noise is less of an issue than its unremitting presence. Closing turbines down during night time hours would help to protect the health, safety and quality of life for residents in the neighbourhood.

I hope this account will help you to better understand our problem, and decide on appropriate action

Yours Faithfully

  
Mrs. Norma Jones



Tegni Ltd  
Bron Graig  
Llangwm  
Corwen  
North Wales  
LL21 0RL

Tel: 01490 420 120  
Fax: 01490 420 500

For the attention of Abigail Philips  
National Assembly for Wales  
Petitions Committee  
Cardiff Bay  
Cardiff  
CF99 1NA

2nd November 2011

Dear Ms Philips

**Ref: Control of alleged noise nuisance from wind turbines (P-04-329)**

We refer to the petition calling for restrictions on the operational hours of wind turbines and strongly urge the petitions committee to dismiss this proposal. We have the following comments:

All wind farms that have been constructed in Wales and the rest of the UK have had to comply with stringent noise conditions. Many wind farms can be heard from dwellings situated nearby, but only under certain circumstances, which are usually quite infrequent.

We live on a densely populated island and energy demands are increasing all the time. We need to generate as much energy from renewable sources as possible, so the thought of turning wind farms off is quite frankly ridiculous.

We, and friends locally, live near to wind turbines. We can hear them sometimes, but they are never a nuisance and they never affect sleep.

We live in sad times when such a small number of people can have such an influence on such important issues as clean energy production. It has been proven many times by different organisations including the British Wind Energy Association that the majority of people do not have any problems with wind turbines.

We ask the Petitions Committee ensure that they get this issue into perspective and look at the general consensus of opinion and not simply that of the very vocal few who seem to object to everything.

Yours faithfully

Huw Smallwood  
Managing Director

National Assembly for Wales  
Petitions Committee  
Cardiff Bay  
Cardiff  
CF99 1NA

Via Email: [deisebau@cymru.gov.uk](mailto:deisebau@cymru.gov.uk)

3 November 2011

Dear Madam or Sir,

**Control of noise nuisance from wind turbines (P-04-329) – Evidence by RenewableUK**

RenewableUK welcomes the opportunity to provide evidence on the petition seeking the passing of a statute controlling noise nuisance from wind turbines during anti-social hours, which has been submitted to the Petitions Committee. We provide this evidence on behalf of the UK wind, wave and tidal energy industries. RenewableUK would be prepared to give oral evidence in person.

RenewableUK is the trade and professional body for the UK wind and marine renewables industries. Formed in 1978, and with over 700 corporate members, RenewableUK is the leading renewable energy trade association in the UK. Wind has been the world's fastest growing renewable energy source for the last seven years, and this trend is expected to continue with falling costs of wind energy and the urgent international need to tackle CO<sub>2</sub> emissions to prevent climate change.

Please feel free to contact me on 0207 901 3024 or at [yana.bosseva@renewableuk.com](mailto:yana.bosseva@renewableuk.com) should you require any additional information.

Yours sincerely

**Yana Bosseva**  
Planning Advisor,  
RenewableUK

# **PETITION ON THE CONTROL OF NOISE NUISANCE FROM WIND TURBINES: EVIDENCE BY RENEWABLEUK**

## **INTRODUCTION**

RenewableUK welcomes the opportunity to submit evidence to petition referenced P-04-329, which has been submitted to the Petitions Committee. The petition states:

*'We call upon the National Assembly for Wales to urge the Welsh Government to pass a statute controlling the noise nuisance from wind turbines during anti-social hours. We ask for the implementation of respite periods during which time turbines would be switched off. Noise respite periods are common in public health legislation. They are called for by the World Health Organisation in their Community Noise report; and are currently implemented in the U.K. on airport operations, construction sites and factories and other evening and overnight noise nuisance. We ask that this applies to turbines above 1.3 MW, and that respite periods be between 18.00Hrs to 06.00Hrs for turbines within 1.5 Km of individual residences; and 22.00Hrs to 06.00 Hrs for turbines within 2Km of communities. Authorities within Wales determining applications under 50MW Plate Capacity, and the Infrastructure Planning Commission determining those over 50MW should make developers aware of this Public Health restriction which may affect individual turbines.'*

Our response below looks at the Welsh policy context for renewables and discusses the potential for renewable energy generation in Wales. We then look at the suggestions in the petition and the effect they would have on the wind energy industry in Wales if implemented. In our view the requests in the petition have absolutely no foundation and should not be implemented, as they have the potential to extinguish everything that has been achieved so far in the establishment of wind energy in Wales, as well as future prospects for the development of other forms of renewable energy generation, including marine renewables. The measures suggested in the petition would prevent a large amount of investment from coming into Wales and reduce its ability to achieve binding national objectives on climate change and carbon reduction.

In relation to noise and respite periods, in RenewableUK's view the combination of ETSU-R-97 guidance (The Assessment and Rating of Noise from Wind Farms) and relevant legislation provides a proven and robust level of site- and project-specific safeguards to protect local communities. It also gives confidence to all parties, including the general public, wind farm developers and operators that any noise concern will be dealt with using a method which has been developed by experts and provides sufficient safeguards.

## **RENEWABLE ENERGY POLICY CONTEXT**

### ***UK Renewables Targets***

The petition has been put together against the background of a number of national and international law and policy provisions supporting the development of renewable energy, which should be considered. These include EU Directive 2009/28/EC of June 2009, the UK Government Climate Change Programme, the Energy White Paper 2007, the Climate Change Act 2008, the Renewable Energy Strategy 2009, the UK National Renewable Energy Action Plan 2010 and the newly published suite of National Policy Statements for Energy and Renewable Energy.

As a result of the 2009 EU Directive, the UK has a binding target of meeting 15% of its energy consumption from renewable sources by 2020. This target is echoed in the 2009 Renewable Energy Strategy (RES) and the UK Low Carbon Transition Plan. The RES makes it clear however, that the 15% target also includes fuel and heating, which means that a greater proportion (i.e. 30% or more) of electricity supply will have to come from renewables to balance out the difficulties in providing a significant proportion of fuel and heating from renewables by 2020.

Wind energy generation is expected to provide about 64% of all the electricity from renewable sources by 2020, with about 29% coming from onshore wind. While this is just an indicative breakdown, it is important to note that it is based on the RES lead scenario modelling. For comparison, the UK had been working towards (and failing to reach) a 10% target until 2010. Therefore the actual indicative target for renewable electricity for 2020 is triple the target for 2010, with less than half the time available to achieve it. This clearly demonstrates the case for a rapid increase in the deployment of onshore wind energy. If the proposals in the petition are implemented, it would be impossible to meet UK and Wales generation targets and climate change obligations.

### ***Wales Policy Context***

The policy context in Wales in particular is set by Technical Advice Note (TAN) 8 and the 2010 Energy Policy Statement, which radically increased the renewables target. Whereas the position since 2005 had been that the target for 2020 was set at 7TWh of electricity output from renewables, the latest statement sets out the potential for a new, greatly enhanced target figure for 2025 of 22,500MW of installed capacity of renewables. This can be seen as a formal response by the WAG to the UK Government's publication of the RES in 2009 with its greatly increased UK national figure of, at least, 30% of electricity from renewables by 2020. This was confirmed by a written statement from the Welsh Assembly Government (WAG) in June 2010. Planning Policy Wales 2011 also states that planning policy at all levels should facilitate delivery of both the Assembly Government's overall Energy Policy Statement and UK and European target commitments on renewable energy.

John Griffiths, the Minister for Environment and Sustainable Development has issued a new guidance letter to Stakeholders (July 2011), which states that TAN8 will continue to be used as the

vehicle for the strategic delivery of onshore wind throughout Wales, but instead of using the indicative targets set out in TAN8 of 800 MW for 2005, the figures to which everyone should be working should be the figures assessed by Garran Hassan<sup>1</sup> as being the maximum capacities of the SSAs. These figures added together would yield about 1700MW of onshore wind capacity.

## **POTENTIAL FOR RENEWABLES IN WALES**

Wales has significant wind, wave and tidal resources and RenewableUK believes it should lead by example in harnessing these renewable energy resources. Renewable energy plays a key part in tackling climate change, energy security and fuel poverty in the long term, and would be a key element of Wales' green economy. RenewableUK and the Welsh Government wishes to see Wales as a world-class centre for excellence in renewables, leading the way to a carbon-neutral economy. Building a strong renewables industry in Wales would provide high quality green-collar jobs, considerable inward investment, long-term biodiversity benefits, community benefits, and energy supply and costs security for the consumers.

A survey on the economic value of wind energy to Wales, conducted by Arad Consulting in 2010<sup>2</sup>, comprehensively quantifies the economic contribution of the wind energy sector to the Welsh economy over the next decade and provides compelling evidence of the economic benefits the sector is set to deliver. The analysis estimated a total annual turnover derived from activity linked to wind energy in Wales of £123.5 million. In gross value added terms, this estimate places the wind energy sector far above the contribution of industries such as fishing and forestry in Wales, while comparing well with long-established sectors such as the manufacturing of wood products, agriculture, and mining and quarrying.

The evidence in the report also shows that there is an expenditure of around £34.5m on staff in Wales, while it is estimated that another £34m is spent on goods and services. £34m is also the expenditure on contracts awarded to other companies in Wales. In total, the wind energy sector contributes around £103 million pounds directly to the Welsh economy. Part of this direct expenditure will be passed on in further rounds of spending in Wales. By applying a standard industry multiplier to the expenditure figure, the report estimates that the total annual contribution of the wind energy sector in Wales is over £158 million. It was estimated that wind energy growth by 2020 could generate business turnover equivalent to between 1% and 2% of Welsh GDP.

It should therefore be recognised that onshore wind is the most mature large-scale technology presently available and that its encouragement will lead to a stronger offshore sector in time. Strong supporting policies, guidance, encouragement and action from Welsh Government to deliver these

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<sup>1</sup> Garrad Hassan, June 2005, Energy Assessment of TAN 8 Wind Energy Strategic Search Areas and Update Report dated October 2005

<sup>2</sup> The Economic Value of Wind to Wales, A Survey (2010)  
[http://www.bwea.com/pdf/publications/Wales\\_economic\\_report2010.pdf](http://www.bwea.com/pdf/publications/Wales_economic_report2010.pdf)

benefits and ensuring that the opportunity is not lost to other parts of the UK or Europe are vital. The implementation of the measures suggested in the petition would therefore jeopardise all of these objectives, through reducing existing generation by 50%, and by practically introducing a moratorium on the development of new wind energy in Wales. There will also be wider implications for the wind energy industry in the UK as a whole, through a reduced ability to meet binding targets and acting as a detraction for investment.

## **COMMENTS ON THE PETITION**

The petition introduces a number of different issues for consideration, namely: noise nuisance and related legislation; the introduction of respite periods; restrictions on turbine size and capacity; and buffer zones. These are discussed in more detail below.

### ***Current Guidance and Noise Nuisance Legislation***

ETSU-R-97 guidance is DECC and Welsh Government supported and is used throughout Wales and the rest of the UK to assess noise from wind farms. ETSU-R-97 was written by a Noise Working Group of developers, noise consultants, environmental health officers and others set up in 1995 by the Department of Trade and Industry through ETSU (the Energy Technology Support Unit). It provides robust and appropriate noise limits for wind farms based on the individual character of an area including its baseline noise levels; topography; the size and numbers of turbines. The guidance is used successfully to ensure levels of noise from wind farms are acceptable. Paragraph 2.5.58 of the National Policy Statement for Energy Infrastructure (NPS EN-3 – Renewable Energy), published in July 2011, refers to ETSU-R-97 and states:

*'Where the correct methodology has been followed and a wind farm is shown to comply with ETSU-R-97 recommended noise limits, the IPC may conclude that it will give little or no weight to adverse noise impacts from the operation of the wind turbines.'*

On that basis the petition request is a direct challenge to UK government policy as ratified by Parliament as recently as July of this year.

ETSU-R-97 takes account of:

- the separation distance of the turbine/s from a home/s
- the number of turbines in the wind farm
- local topography
- the existing background noise at the home/s
- the sound data from the turbine selected for use

This broad spectrum of considerations makes it the best current guidance and the most effective way of protecting communities. ETSU-R-97 represents the output from acoustic, planning and industry experts as to what is regarded as "appropriate" for the protection for residential amenity. Another



benefit of the application of ETSU-R-97 guidance by the developers and local planning authorities allows them to include planning conditions on decisions, setting appropriate noise limits and therefore safeguarding against the possibility of noise becoming the nuisance for the local area.

On the rare occasion that an unforeseen noise issue arises from an operating wind farm, it can be addressed under the Environmental Protection Act of 1990 and the Noise and Statutory Nuisance Act 1993 through the serving of a Control or Abatement Order. This could result in the source of the nuisance (e.g. a wind farm, or certain wind turbines within a wind farm) being switched off for specific periods of time as deemed necessary to control any noise nuisance.

Since 1991, there have been an estimated 239 formal complaints in relation to wind farms, of which 152 were from a single site, and only one site was upheld as a statutory nuisance. This is confirmed in a University of Salford Report of 2007 entitled “Research into aerodynamic modulation of wind turbine noise”. This data clearly indicates that windfarms are not a widespread source of noise nuisance, and therefore additional protection is not required. On this basis the requests in the petition are not based on an actual problem or need.

### ***Respite periods***

Respite periods are currently used for areas of a known noise nuisance, such as Heathrow Airport for example. In RenewableUK’s view it would not be appropriate to create respite periods for wind farms where noise nuisance has not been established. Additionally, if it is accepted that as a principle it is appropriate to shut down turbines overnight within certain distances of dwellings and communities, then surely a precedent would be set and the same principle should apply to other emitters of similar or greater levels of noise. That would include all forms of transport, factories, entertainment venues and possibly all other sources of noise, including TV, music and radio, within 1.5km of individual houses or 2km of communities.

To state “they [noise respite periods] are called for by the World Health Organisation (WHO) in their Community Noise report” is misleading, as noise respite periods are not mentioned at all as a noise management strategy, far less as a recommendation in the WHO 1999 Guidelines for Community Noise, nor are they mentioned at all in the subsequent WHO 2009 Night Noise Guidelines for Europe. Both these papers favour the recommendation of guideline limits to reduce the impacts upon populations, with the intention that the relevant government should manage noise as they see fit, ideally within these limits. The limits relating to external noise from a non-continuous source mentioned in both these reports have been taken into account in the formation and review of the UK noise guidelines which are enforced through current planning guidelines, as referred to above. The current levels of protection are therefore sufficient.

### ***Restriction on turbine size and capacity***

Significant improvements in wind turbine generating capacities have not resulted in a comparable increase in noise from wind turbines. On this basis, the capacity rating of a turbine cannot be used to accurately predict or determine noise output.

The petition's proposed criteria are arbitrary and take no consideration of other factors such as topography and existing levels of background noise. In RenewableUK's view, the baseline background noise in an area should be used to determine the limit of sound emissions from a wind farm, not the generating capacity of the turbines. Furthermore, the total noise emissions from a large number of small capacity turbines can be the same as that from a few large capacity turbines.

### ***Buffer zones***

The petition seeks that 'noise respite periods' be applied to turbines of capacity above 1.3MW within 1.5 km of residences and 2km of communities. Desktop GIS exercises undertaken by our members indicate that imposing such a restriction would demolish Wales' renewable energy policy by affecting all TAN8 areas and reducing existing wind energy generation in Wales by 50%.

Such criteria for the siting of turbines is not appropriate in our view, as it does not take account of the actual noise effects of a turbine or windfarm, actual background noise levels, or local topography which can also affect how far noise travels. The 1.5km-2km buffer zone is based on a worst case scenario and as such is very conservative given that conditions are very specific to a site.

Under existing legislation, wind farm applicants are required to conduct an Environmental Impact Assessment (EIA). This process is designed to identify and assess the potentially significant environmental, social or economic effects likely to result from a development proposal. As a well established part of the planning process, transposed from the 1997 EU EIA Directive, the EIA process and the resulting Environmental Statement will be given detailed consideration in assessing the individual merits of a wind farm application. This statutory assessment, conducted in parallel with detailed local consultation (including local communities, Councillors, planners and other stakeholders) at an early stage in the pre-application phase is designed to ensure that potentially significant adverse effects are mitigated for each specific application and area.

During the formal assessment of a planning application, each potential planning constraint will then be assessed at a project specific level and the extent of each constraint clearly justified through the EIA process. RenewableUK supports this approach and local authorities should make decisions on a case-by-case basis, in line with trusted policy and guidance.

The introduction of fixed separation distances as requested in the petition will not help address noise concerns. These can only be achieved through appropriate application of ETSU-R-97 and improved understanding of wind turbine noise. This is best addressed on a case by case basis according to

EIA considerations. As well established parts of the planning process, we consider detailed pre-application consultation and EIA to be the most appropriate methods of creating well designed developments in the most appropriate locations.

## **LIKELY IMPACTS OF IMPLEMENTING THE PETITION REQUESTS**

As outlined above, RenewableUK is of the view that the requests in the petition have absolutely no basis and should not be given priority over existing national objectives for carbon reduction and climate change. Below we examine the effects of implementing the petition:

*(a) Investment and the Welsh economy*

The measures proposed in the petition, if implemented, will have a detrimental effect on investor confidence and developers are likely to take their projects elsewhere. The lack of policy certainty and the proposed restrictions on 50% of existing generation capacity will make a number of projects economically unviable.

In terms of supply chain, renewable energy currently contributes with more than 1,000 full-time equivalent jobs to the Welsh economy. These, as well as future job opportunities and investment will be negatively affected should the petition requests be implemented. Additionally, investment and opportunities within the offshore wind industry, which is very much dependent on the development of the onshore industry, will also be greatly reduced.

On this basis we request that Welsh Government does not pass legislation which would destroy investor confidence by unnecessarily and inappropriately restricting renewable energy generation.

*(b) Energy security and electricity prices*

The restrictions proposed in the petition, and the likely effects on the UK wind energy industry as described above, would mean that there will be increased reliance on fossil fuels in Wales for energy. This is against the UK Government's policy objectives of continued security of supply and urgent need for clean, reliable and affordable energy supplies. Continuing to rely on fossil fuels, which are a finite and imported resource (usually sourced from politically unstable regions), will compromise the security of energy supply. This is likely to result in higher and increasing electricity prices for the consumer in the long term, and a reduced energy security.

In addition, the petition calls for restrictions to be imposed on the hours of operation of turbines of 1.3MW and above. Should this be implemented, any remaining investor interest in Wales is likely to be focussed on turbines of a smaller capacity (less than 1.3MW) to avoid being affected by the restrictions. This shift would lead to a larger number of smaller turbines being installed, which will be less efficient and result in increased cost volatility for consumers.

Providing more support for wind and other renewable sources of energy, however, would lead to an overall reduction in the carbon intensity of the energy sector and more stable consumer prices.

(c) *Renewable energy targets*

As stated above, GIS analysis of the TAN8 areas undertaken by our members demonstrates that any move to implement the petition request would decimate the areas available for future development with turbines over 1.3MW within TAN8, therefore defeating existing Welsh Government policy. At the same time, as stated above, generation of currently operating projects will be reduced by 50%. This is likely to render the majority of TAN8 projects uneconomic through lost generation. In addition, it is likely that a large number of smaller capacity turbines will be installed, as discussed above. Consequently, their contribution to the Welsh Government's renewable energy targets will be significantly undermined.

(d) *Sustainable development and climate change objectives*

Climate change is already affecting, to different degrees, numerous vulnerable locations and communities and it is therefore imperative that the focus on renewable energy generation as a means of delivering sustainable development and the reduction of carbon emissions takes place now. As discussed above, implementing the petition, for which there is no basis whatsoever, would result in 50% reduction in current energy generation from wind. This would therefore reduce the opportunities for working toward a carbon-free economy in Wales and the UK.

## **CONCLUSION**

RenewableUK considers that current noise guidelines and controls work, and that ETSU-R-97 is effective. This is demonstrated by the fact that there are relatively few noise complaints arising from wind farm sites in the UK. In fact, since 1991 there has only been one case of statutory nuisance reported in the UK in relation to wind farms. Therefore, there is no evidence to suggest that any further protection is required. Where exceptional circumstances require further action in terms of noise nuisance, there is a clear and effective method of addressing it through the Environmental Protection Act of 1990 and the Noise and Statutory Nuisance Act 1993.

There is no evidence that there is a problem in Wales caused by wind farm noise. There is, however, considerable risk to the current and future work on achieving the binding renewable energy targets and securing economic investment in Wales and the UK, should this petition be progressed further.

Dear Ms Marshall

Thank you for the opportunity to provide evidence.

The National Park Authority has limited experience in large scale wind turbines (for us this would be 65m or over) or medium scale turbines (25m-65m). Our main experience is with small scale turbines <25m.

In terms of small scale turbines we have not had much by way of noise complaints on turbines. We would suggest that the level of noise disturbance depends very much on the type of turbine used (those with the mechanics mounted at the top of the pole can be noisier) and also depending on the ambient noise level in the area. A location near an urban area for example would experience far higher ambient noise levels than a rural area and therefore each case will be very different. We do not see a case for every turbine application to be subject to a cut off time but there may be instances where this is needed due to the low noise levels in the area generally and/or because of the technical specification of the turbine in question.

I hope this is of assistance.

**Martina Dunne**

Head of Development Plans/Pennaeth Cynlluniau Datblygu

Pembrokeshire Coast National Park Authority/Awdurdod Parc Cenedlaethol Afordir Penfro

National Assembly for Wales  
Cardiff Bay  
Cardiff  
CF99 1NA

01<sup>st</sup> November 2011

Dear Abigail Phillips

I live about 50 meters from a Skystream 3.7 wind turbine and I can tell you it is not very pleasant. Firstly I would like to discuss the planning application for this turbine.

The application number for this planning application is DC/2008/00761. The case officer Nia Morrison; a very young University Graduate gave Mrs Cooke and myself misleading information about the planning process and was going to let us know when a committee meeting was taking place so that we could air our concerns. Ms Morrison never contacted us and the application was approved with out conditions regarding noise. The planning committee nevertheless was given inaccurate information about the noise levels by the Environment Health Department of Monmouthshire County Council MCC who went to the Skystream UK agents in Pontrilas to see a Skystream 3.7 in action. This was a one off meeting which lasted 30 minutes. I don't feel one visit is enough to understand how different wind speed and directions can alter the level and type of noise it makes. At the Llantrisant Fawr Community Council this application was objected by local councillors.

During the planning survey a bat survey had to be carried out, this was done by Leyton Williams-Davies between the 12<sup>th</sup> May and the 8<sup>th</sup> August at Post Cottage and Llanllowell House which is about a mile away. The conclusion to this was that "only two species common pipistrelle and Noctule where recorded." No survey was carried out on Coed Cwnwr Farm only 20 meters away. However during the first half of 2010 I can contacted my the Bat Conservation Trust (Wales) who carried out a survey within 100 meters of the turbine and found not two species but five, these where Common pipistrelle, Noctule, Soprano pipistrelle, Myotis species (unable to identify to species level) and Lesser horseshoe bat. The latter showing a marked decline in number and distribution. Please contact Dr Ruth Angell Senior Researcher on 07707580451 if you would like more information.

Now the turbine has been running for just over a year the noise can only be described as a helicopter in the distance and whining like a siren. This turbine as kept my son awake at 2am on numerous occasions and as a HGV driver it is important he gets a sufficient amount of sleep. Mr Rogers; the turbine owner only spends on average two nights a week at Post Cottage where the turbine is situated and has been advised by MCC Environmental Health to limit the turbines use when he is not at Post Cottage. He is very reluctant to do so and turns the turbine off when he is in residence and on when he is absent.

I invited Ms Morrison to come out and admire the eye sore she had provided a case for and the first thing she said when she stepped out of her car was "I didn't think it was going to be as big as this." This shows that she was out of her depth and it was

very irresponsible of MMC to allow such an inexperienced person to be the case officer on such a technical subject.

I feel with the whole process I have been let down by MCC. Since living at Coed Cwnwr Farm from 1962 it has been a beautifully peaceful place. Around September 2010 the turbine was erected, after a month to see how the turbine was going to sound and the level of noise coming from it I had to complain to the Environment Health. Anthony Davies the person who ill-advised the planning committee is now in charge monitoring the turbine. He has said to both Mrs Cooke and myself from the start that he wants the turbine to stay operational. This however gives me the impression that if this turbine was making more than the legal noise level it would not be condemned by Mr Davies which is biased. If he cannot act in an impartial manner he should ask someone else to take the reins on this case but then if the outcome that he doesn't want happens he will be proved wrong with his 30 minutes decision making quest. Also the Skystream is not in compliance with FCC regulations regarding EMI interference, but once again my voice has not been heard nor has Environmental Health done any research into this.

From my experience of these small scale turbines I feel the persons advising are not qualified to do so and as a result I don't feel the local councils have the knowledge to approve these applications, but I am positive officials would object this application if it was going to be put in their back yard. I am not against renewable energy but I am against causing nuisance to your neighbours. I have planted over 50 acres of board leaf woodland on my farm. This does not block any ones views nor cause nuisance but if it did I would serious remove it, after all we are only on this planet once so it is better if we all try to live together in harmony.

Yours sincerely,

S J Lewis