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The Clerk
Environment Sustainability Committee
National Assembly for Wales
Cardiff Bay
CARDIFF
CF99 1NA

21st September 2011

Dear Sir or Madam,

I would like your committee to consider the attached information in addition to the e-Petition that I raised earlier this year on the Welsh Assembly web site "Say No to Tan 8 – Wind farms & High Voltage Power Lines Spoiling our Community" Details of which I believe you already have for consideration by your committee.

Additional information for the committee to consider

1.0 Out of date information

Planning guidelines in TAN 8 are out of date, based upon information that is over seven years old. During the past few years there have been great technical advances in wind turbine development and a huge increase in physical size and generating capacity. We now have the benefit of recent research and a better understanding of many of the issues surrounding the building of wind farms and their associated transmission lines and sub-stations. These advances were not envisaged when the original planning policy was formulated, therefore I urge the Welsh Assembly government to undertake a major review of TAN 8.

2.0 Cumulative Effect

Consideration must be given to the "cumulative effect" in all planning guidelines of these huge turbines and their associated structures (Pylons, transmission lines and substations) this must be of paramount importance.

3.0 Human Health - The Draper study

Matches grid references of childhood cancer cases with the locations of power lines and the magnetic fields calculated from them.

The study was funded by the UK Department of Health. It was conducted by the Childhood Cancer Research Group (CCRG) at the University of Oxford with input from National Grid. There are four authors, three from CCRG (Gerald Draper, Honorary Senior Research Fellow, Tim Vincent, Research Officer, Mary Kroll, Statistician) and one from National Grid (John Swanson, Scientific Advisor).

The study concerns nearly 33,000 cases of childhood cancer born in England and Wales between 1962 and 1995 and diagnosed over the same period. This study

concerns overhead power lines forming the National Grid in England and Wales, i.e. all 275 and 400 kV overhead lines (the highest voltages used), plus a small fraction of 132 kV lines, about 7,000 route km altogether. The grid references of all 21,800 pylons concerned were obtained from the records of National Grid. Using the postcode of domicile at birth subjects within 1 km of a transmission line were identified.

Conclusions

There is an association between childhood leukaemia and proximity of home address at birth to high voltage power lines, and the apparent risk extends to a greater distance than would have been expected from previous studies. About 4% of children in England and Wales live within 600 m of high voltage lines at birth. If the association is causal, about 1% of childhood leukaemia in England and Wales would be attributable to these lines, though this estimate has considerable statistical uncertainty.

4.0 Further Health Risks - VAD Vibro-Acoustic Disease

Industrial Wind Turbines, Infrasound and (VAD) Authors:-

Professor Mariana Alves-Pereira, School of Health Sciences (ERISA),
Lusofona

University, Portugal, and Department of Environmental Sciences &
Engineering, New University of Lisbon, Portugal

Nuno Castelo Branco, MD, Surgical Pathologist, President, Scientific Board,
Center for Human Performance (CPH)

Excessive exposure to infrasound and low frequency noise (ILFN, defined as all acoustical phenomena occurring at or below the frequency bands of 500 Hz) can cause vibro-acoustic disease (VAD). Research into VAD has been ongoing since 1980, conducted by a multidisciplinary team of scientists led by pathologist Nuno Castelo Branco, MD. In March 2007, for the first time, the Portuguese National Center for Occupational Diseases gave 100% professional disability to a male who had been diagnosed with VAD since 2001.

The results irrefutably demonstrate that wind turbines in the proximity of residential areas produce acoustical environments that can lead to the development of VAD in nearby home-dwellers. As sound can travel great distances depending on wind direction and frequencies can mix to create beat frequencies, there must be further in depth studies of the cumulative effects of wind farm noise before further large turbines are installed.

5.0 Aviation

Montgomeryshire has a high proportion of low flying military aircraft. Together with low flying activity based around Welshpool airport which includes a flying school and base for the Mid Wales air ambulance. Wind turbines, pylons and cables pose

danger to aviation and an obstruction to the ability to operate military aircraft and helicopters at low level which is an essential part of ensuring operational success. Low flying training in the UK enables this vital capability. Low flying remains an essential skill for military aircrew. As wind turbines increase in size and number their potential impact on aviation operations increases correspondingly. Interactions between wind turbines and aviation activity are potentially complex.

Masking & Shadow Affecting Aviation

The masking of real aircraft can happen in two ways: by reflecting or deflecting the radar such that aircraft flying in the "shadow" of the turbines are not detected. By presenting such a large number of returns from the towers and the blades that the returns from actual aircraft are lost in the "clutter". While shadowing will only affect returns from aircraft flying at low altitudes and will thus normally only have a small effect, the effects of radar clutter will have an impact on all aircraft flying at all altitudes over the area affected and is more critical. The effects of clutter on flight safety are always potentially extremely serious. In practice, the effects of clutter will impair the radars' detection performance in certain sectors and it may be insidious in nature.

There do not appear to be any studies on the cumulative effect of wind farms with high capacity output on the dangers to aviation.

6.0 The recently published views of the leading Industrial professionals must be taken into account in a major review of TAN 8.

I bring your attention to two recently published documents-

Dr Nigel Burton, President of The IET (Institution of Engineering and Technology previously known as the IEE the Institution of Electrical Engineering)

In his inaugural speech, he says some technologies "are a serious misallocation of resources if the principal objective is cost-effective emissions reduction. Early enthusiasm for domestic wind turbines has waned as it has become clear that in general these have no economic value and in some cases consume more electricity than they produce."

The cost of maintaining security of supply with intermittent generation on the system.

Colin M Gibson CEng FIEE Power Network Director, National Grid Group 1993-97

Because intermittent generation has a much lower probability of generating at times of system peak demand than thermal generation, there is a requirement for back-up thermal generation to contain the risk to security of supply to an acceptable level. The consensus view is that about 90MW of back-up is required for every 100MW of wind generation. For a true comparison, the capital charges for this plant should be added to the cost of intermittent generation.

7.0 Local Transport Considerations

Most roads and bridges in Mid Wales are not capable of taking the huge heavy and wide loads. There will be frequent major disruption to our towns and villages, which will have an adverse effect on the local economy.

8.0 More emphasis on alternative energy sources

Shale gas in particular, produces some 45% less carbon greenhouse gases and fewer particulates than oil or coal fired power stations.

BIBLIOGRAPHY

Selley, R C 1987. British shale gas potential scrutinized. Oil & Gas JI. June 15. 62-64.

Selley, R C 2005. UK shale-gas resources. In: Doré, A.G. & Vining, B. A. (eds.) Petroleum geology of NW Europe & Global perspectives. Proc. 6th Petroleum Geology Conference. Geological Society. London. 707-714.

9.0 Domestic Energy Efficiency

Increase awareness, education and incentives for Welsh households to be more energy efficient

10.0 Business, Public Sector and Industrial

Energy efficiency needs to be better promoted within the above sectors

Fitting an inverter and 22kw permanent magnet motor for a water pump or fan to an old existing installation could have energy saving of approximately £7000 per year (see carbon trust web site)

Increased usage of such energy efficient inverters to control various industrial processes would create extra employment in Mid Wales

Inverters are manufactured in Mid Wales by Invertek Drives Ltd.

Offa's Dyke Business Park, Welshpool, Powys, SY21 8JF

Control Techniques Limited, Worldwide Headquarters . The Gro, Newtown, Powys, SY16 3BE

11.0 The "WALES OFFICE BUSINESS PLAN 2011-15"

In the introduction of the above document it states: "The Wales Office exists to serve Wales and its people. Our vision is for a more prosperous, ambitious and fairer Wales for all. We will take action to showcase Wales both within Government and beyond as an attractive place to live, visit, work and do business, and be the conduit through which the people of Wales can have their voices heard at the centre of Government"

How will anyone be able to promote Mid Wales as an attractive place to live, visit, work and do business, when the beautiful landscape is spoiled with hundreds

of huge pylons, wind turbines, sub-stations and transmission cables? I am extremely concerned about the potential lost of jobs in the tourism industry due to the desecration of our wonderful landscape. The loss of key tourism can hardly be described as prosperous.

There appears to be a major blockage in the conduit through which the people of Wales can have their voices heard at the centre of Government.

I am former Chairman of MANGO (Montgomeryshire Alliance of Neurological Groups and Organisations)
Currently Chairman of Parkinson's UK, Montgomeryshire Branch,
Many of our members have expressed profound concerns about the effects the proposed huge wind turbines, pylons and sub stations will have upon health, the community, employment and local economy.

I am grateful for the opportunity to express my opinions and put various facts before the Committee, I ask that you impress upon all concerned for the need for a major review of TAN 8.

Yours faithfully

John Day