

Health Impacts of the proposed Beauly to Denny Power Line

Presentation to Stirling Council 17 Oct.

- There is now overwhelming evidence that electric and magnetic fields (EMFs) such as those found near high voltage power lines are a significant risk for a wide range of serious illnesses.
- More is known about EMF health impacts than is known about passive smoking.
- In June of this year the Draper Report was published. This was a UK government funded study conducted by the Oxford Childhood Research Group.
- It studied 29 thousand children with cancer over a 33 year period and investigated whether proximity to home address at birth to the nearest high voltage power line was associated with increased risk of childhood cancer.
- The results showed that children who lived within 200 metres of high voltage power lines were nearly twice as likely to have childhood leukaemia than those who lived greater than 600 metres from the lines. A slightly increased risk of leukaemia was observed for those children living between 200 m and 600 m from the lines. No excess risk was found for other childhood cancers.
- The following conclusions were drawn by the authors:-
 1. There is an association between childhood leukaemia and proximity to home address at birth, to high voltage power lines.
 2. The most obvious explanation for the association with distance from a line is that it is indeed a consequence of exposure to magnetic fields.
 3. There is no obvious source of bias in the choice of cases or controls.
 4. Population mixing (which has been associated with childhood leukaemia) and socioeconomic status were ruled out as possible confounders.
 5. Previous pooled international studies showed a similar doubling of childhood leukaemia for children living in proximity to power lines.
- The authors also said the relation may be due to chance or confounding. This is true, in the same way that if someone smoked heavily for 20 years and then developed lung cancer, it may be due to chance and nothing to do with the cigarettes.
- It is now beyond all reasonable doubt that living close to high voltage power lines is a significant risk factor for childhood leukaemia on a par with the increased risk of lung cancer associated with passive smoking.
- More focused studies. in Germany, looking at night time exposure to EMFs showed a five fold increase in childhood leukaemia.
 - One of my colleagues has spoken to Dr Gerald Draper and he told her that he would not live near high voltage power lines nor would he have his family doing so.
 - I have spoken to one of the other authors of the study Dr John Swanson who is an employee of National Grid Transco. He was keen to play down the significance of the results but is on record as saying that consideration should be given to the routing of new HV power lines near dwellings. He also told me “no one in their right mind would want to live near them.”
 - A large number of people have lost their minds doing just that.
 - At least twelve epidemiological studies show increased risk of depression and suicide from magnetic fields. Six of these concerned residential exposure to high voltage power lines.
 - A study in Finland looked at depression in 1200 same sex twins. This found that the risk of severe depression was nearly 5 times greater, for those living within 100 metres of a HV power line, than in those living more than 500 metres away.
 - Professor Denis Henshaw of Bristol University estimates that as many as 9000 cases of depression and 60 suicides may be attributable to exposure to power line EMFs' annually in the UK
 - The Californian Health Department EMF report of 2002 produced substantial evidence of

increased risk of adult brain cancer, adult leukaemia, miscarriage and a type of motor neurone disease associated with magnetic field exposures.

- All of the above wide range of adverse health outcomes could be explained by the disruption of the night time production of the brain hormone melatonin. Melatonin is a powerful antioxidant and free radical scavenger known to act as a natural anticancer agent. Reduced levels of melatonin are associated with depression and are also likely to have a bearing on miscarriage. There is now a body of studies showing that long term exposure to very low level magnetic fields are capable of significant disruption of nocturnal melatonin.
- There is also evidence for a number of other causal mechanisms
- In the Environmental Statement the power companies state their policy in planning the project was to follow government guidelines. However, these guidelines, which refer to public exposure to magnetic fields, are meaningless, and provide no protection whatever to the public. They are 250 times higher than the level at which a doubled risk of childhood leukaemia is internationally acknowledged. It was in recognition of this discrepancy, that in March 2004, the TRPB advised ministers to take the issue of precaution seriously. Accordingly the Public Health Minister, Melanie Johnson MP, has set up a group The Stakeholder Advisory Group for EMF (SAGE). The remit of the group is “to explore precautionary approaches to limit exposure to electric and magnetic fields lower than the levels in the NRPB guidelines.” The issue of sighting power lines near houses is one of the issues receiving urgent attention. New guidelines are likely to be produced early next year.
- Professor Henshaw, who is a member of SAGE, in a recent letter to The Scottish Parliament’s Petitions Committee said “I urge the Scottish Parliament to consider immediate strict precaution against the sighting of power lines near houses or the converse. I would remind the Parliament that we are well behind some other countries in this regard.” In 1996 Sweden introduced an exposure limit 500 times lower than the UK’s current guidelines, as did three Italian regions in 2000. Switzerland introduced a limit 250 times lower than ours in 1999.
- At SSEs recent AGM Dr Maclean confirmed health had not been a consideration in the routing of the line. Indeed the line is now closer to dwellings to the east of Stirling than in the original proposal. 65% of the line may have been revised, but not *in* the interests of Stirling residents.
- The Power companies have chosen to ignore the now overwhelming evidence of wide ranging health impacts.
- They have ignored thousands of letters which cited health impacts as the major concern They have ignored the very strong cross party support that we have had from our MSPs who have called for a moratorium on the construction of new HV power lines near dwellings. They have ignored the fact that the Norwich Union, among other major insurers now regard living close to high voltage power lines as a future risk for the insurance industry.
- They have quoted out of date information, and very selectively from studies and individuals, and have introduced misleading information. There are examples of spin on every page.
- For example on page 7 and on page 10 of Chapter 32 the Power companies assert the UK study published in 1999 found no evidence that exposure to magnetic fields associated with proximity to power lines in the UK increases risks for childhood cancer. This is not true. There was evidence, that was thought not to be statistically significant at the time. Not mentioned by the power companies is that the authors of that study published a correction in the Lancet in 2000 saying that when their results were included in the pooled analysis an association was apparent.
- This study was referred to in the Draper report, “a previous UK study showed a relative risk of 1.42 for acute lymphocytic leukaemia within 400 m of 275 and 400 kV lines.”
- On the second last page of chapter 32 the power companies concede that electronic equipment such as computers are adversely affected by low level magnetic fields. The brain is a particularly sensitive piece of electronic equipment that has direct or indirect control of nearly all body systems. It therefore comes as no surprise that “interference” with it by low level magnetic fields is going result in adverse health effects.
- The Precautionary Principle is not even mentioned. This Principle allows big companies to take

precautions without admitting there is problem with their product and Sir William Stewart chairman of the Health Protection Agency (HPA), recently said. that with regard to new power lines, the principle should be followed. HSE

- A full and proper risk assessment needs to be done. Looking at. for example, how many children might die, how many serious adult conditions might result and doing a full cost benefit analysis for the whole route and comparing it to other routes and options.
- We cannot down play the long term consequences of altering the environment of those communities affected by the proposed pylons. Stress levels are already apparent.
- Factors which considerably alter our quality of life, and fall outside our ability to control, will invariably impact on our mental wellbeing, this in turn has extraordinary social and financial costs.
- Communities are aware that it is not just the magnetic field that may pose them a danger. It is known that the electric field produces so-called corona ions and that these particles attach to pollutants to create cancer inducing agents. These particles can be carried kilometres downwind of HV power lines. The proposed new power line passes very close to thousands of people living to the east of Stirling.
- There would be visual and noise pollution for many residents.
- There would be pressure on the viability of businesses in the wake of the degraded landscape.
- Logie kirk and cemetery would suffer great intrusion.
- Thousands of lives would be seriously diminished.

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