

Further consideration of **PE812**
High-voltage power lines and adverse health effects

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November 27th 2008

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Alan Cameron's response to the Petitions Committee

Alan Cameron's letter is not a response to the requests made by the Petitions Committee on 21st Feb, nor my June 2008 letter, but rather a defence of the official position with regard to power line EMFs, which prompted the submission of PE812 back in 2004. It therefore takes PE812 no further forward and addresses not one of the questions raised, and certainly not the Committee's request for a precautionary approach to be supported. On the basis of a substantial and growing body of scientific evidence (including the latest studies on **Alzheimer's disease**) *Stirling Before Pylons* continue to hold very serious concerns for public health from high-voltage overhead transmission lines (HVOTLs). We are not alone in this, and Germany has now joined other European countries in legislating meaningful precautionary measures.

With regard to Alan Cameron's letter I wish to make the following points:

- There is no reference as to how a precautionary approach could be adopted by planning authorities – perhaps in deference to a forthcoming announcement by Westminster (expected before Christmas). Neither is reference made to the Public Petition Committee's calls for a **precautionary approach**, as minuted at the February 19th meeting.
- My previous response to the Petitions Committee and Stephen Garland's letter (June 2008) questioned the **scientific basis** for advice offered by the HPA to government. Cameron's response fails to address any of the issues raised, merely affirming the Scottish Government's confidence in this body. I still maintain that the HPA letter to government of Oct 15th 2007 is inconsistent and ill informed, referencing not a single study published since 2004 (copies attached). Also attached is a recent letter from the UK's pre-eminent professor in the field (Denis Henshaw of Bristol University), which likewise raises serious concerns at the HPA letter of advice to government.
- Cameron's letter makes no reference to recent scientific studies into the association between HVOTLs and **Alzheimer's disease**. The recent publication of the Swiss National Cohort Study (Huss et al., American Journal of Epidemiology Nov 5 2008 - attached) into the relationship between **Alzheimer's disease** and residential proximity to HVOTLs was reported in the Express newspaper (Nov 11 2008, <http://www.express.co.uk/posts/view/70485/Pylons-double-risk-of-dying-from-dementia->), at the end of which a spokesperson from the Department of Health said it "was reviewing its position in the light of the study". This major study analysed over 4.7 million people over a 5 year period and shows a clear and quantifiable association between HVOTLs and the disease. The association

becomes stronger with closeness to power lines and duration of exposure. Living within 50 metres of a high-voltage power line for 15 years or more reveals a **doubling of risk of Alzheimer's** disease.

This Swiss study is not isolated, but consistent with the combined analyses of risk of Alzheimer's with occupational exposure to power-frequency magnetic fields (Garcia et al, 2008). Moreover, I understand that Alzheimer's sufferers display significantly reduced melatonin levels, so this study adds credibility to the plausible biological mechanism based thereon.

The evidence for risk of Alzheimer's from HVOTLs is now quantitatively comparable with that for **Childhood Leukaemia**, for which magnetic fields have been internationally recognised as an IARC class 2B carcinogen, with the UK's own Draper Report (2005) quantifying the risk with distance from HVOTLs. Terry Pratchett's petition to Gordon Brown this week highlighted (<http://news.bbc.co.uk/go/em/-/1/hi/health/7746478.stm>) that there are 700,000 Alzheimer's sufferers in the UK, costing the economy £17bn pa. The numbers involved are therefore significantly higher than with childhood leukaemia, so the CBA must surely swing in favour of precautionary measures for the most vulnerable, young and old alike, in our society.

- With regard to the SAGE process, yes it did produce a First Interim Assessment, but one with which many stakeholders could not identify – to the extent that several key players have now left the process. I have already submitted my review of SAGE Phase1 to the PPC. New facilitators have been appointed with a specific remit not to force consensus where none exists. I regularly communicate with and attend SAGE meetings, but the Scottish Government representative has only attended 1 of the 3 most recent main group meetings (2007-8). This is disappointing, for although high-voltage lines only directly threaten the health and well-being of a minority of the population, there were 15,000 objections to the Beaulieu to Denny proposal specifically on this issue. Moreover, if Scotland intends to develop its Renewable Energy potential, then the necessary growth in grid infrastructure will massively increase this problem for the Scottish people unless it is addressed responsibly now.

Neither the HPA nor SAGE has seriously addressed the now overwhelming peer-reviewed scientific evidence of adverse health effects associated with HVOTLs. Indeed, Phase 1 of SAGE had a specific policy not to review scientific evidence (thankfully overturned in Phase 2). There is over 25years of research showing adverse health effects, but in the last four years key papers and reviews including the Draper Report 2005, the Lowenthal study 2007, the BioInitiative Report 2007, and the Garcia et al. & Huss et al. studies 2008 highlight the serious public health threat posed by HVOTLs.

By way of contrast, the July 2007 **Westminster Cross-Party Inquiry Report** did address the results of some of these recent studies, including the government funded Draper report. It came to very different conclusions, recommending “a moratorium on the building of new HVOTL within 60m of existing homes and schools”....extending this distance to 200m for the highest voltage lines” (up to which distance The Draper

Report found a 75% increased risk of childhood leukaemia). Recent German legislation also relates directly to the latest scientific evidence and calls for a moratorium on new HVOTLs within 200m for individual properties, extending to 400m for residential areas. The German situation is directly comparable to that of Scotland in that their precautionary legislation has arisen as a direct result of the promotion of Renewable Energy, but with the condition that its transmission should not damage communities through which it passes.

- Alan Cameron's final paragraph justifies the Scottish Government's failure to undertake an analysis of the scientific research by its dependence on the work of COMARE (Committee on Medical Aspects of Radiation in the Environment). Yet COMARE's remit covers ionising radiation, not power frequency ELF EMFs, nor the critical long-term biological effects (cancers) thereof. The Scottish Government's reliance on advice from COMARE is therefore irrelevant to PE812.

However, numerous scientific reports and epidemiological studies of direct relevance have been ignored, with not one having been addressed or even referred to in Mr Cameron's response or the advice presented to government by the HPA. If government wants public confidence in its forthcoming guidelines, then it must at the very least engage with the relevant bodies and research, and particularly studies which public money has financed (The Draper Report was part-funded by the Scottish Executive). Otherwise the public will be justified in asking whether this reflects a waste of public money, or if the results presented "an inconvenient truth"?

- Cameron's attempt to close the debate with a selective, though unreferenced quote from the WHO assuages none of our concerns, as this body has recently come under intense criticism for its direct links to the electricity industry (Panorama May 2007) and systemic failure to address evidence (Oxman et al. The Lancet, June 2007). Also, the source and date of the selective WHO quote are required, as their latest 2007 report EHC238, section 1.1.11 comes to a more cautious (if contentious) conclusion "Thus, on balance, the evidence is not strong enough to be considered causal, but sufficiently strong to remain a concern". Indeed, an arm of the WHO, IARC (International Agency for Research on Cancer) officially classifies magnetic fields as a possible human carcinogen (2B). On this basis, even the WHO (1.1.12) recommend that "provided the health, social and economic benefits of electric power are not compromised, implementing very low cost precautionary procedures to reduce exposure is reasonable and warranted".

An unreferenced one line quote from the WHO is patently no substitute for an "analysis of the broad conclusions being formed through current and available national and international scientific research".

Stirling Before Pylons is therefore not willing on the basis of Mr Cameron's letter to close PE812. The outstanding issues are much the same as those submitted back in 2004, except that the number of scientific studies concluding that there is the risk of serious adverse health effect from living in close proximity to HVOTLs continues to grow. Already this year two critical studies (Garcia et al. & Huss et al.) put the increased risk of Alzheimer's disease associated with HVOTLs on a similar footing as

the association with childhood leukaemia. To my knowledge none of the evidence pointing to an association between powerline EMFs and ill health has been convincingly refuted. PE812 cannot therefore be closed on the basis of the latest scientific evidence. It would be a damning indictment if industry and government fail to address this now substantial body of evidence, while we still have the chance to take precautions and safeguard future lives prior to the approval of major new infrastructure projects such as the Beaulay to Denny 400kV proposal.

If the PPC is unable to urge the Scottish Government to acknowledge the internationally acknowledged potential health hazards associated with HVOTLs, then there is clearly no means of persuading them to introduce precautions as a matter of urgency. However, failure to do so, will potentially affect thousands of members of the Scottish public for generations to come – and not for want of trying on the part of the public, whose interests *Stirling Before Pylons* has taken great pains to place before this Committee.

I am therefore asking the Public Petitions Committee not to close PE812, and seek your advice on how to take the unresolved concerns of thousands of citizens, as reflected in PE812, forward. Scotland with its ambitious Renewable Energy programme should be leading the way in introducing precautionary measures for public health from new grid infrastructure projects.

Yours sincerely,

Caroline Paterson
Stirling Before Pylons.