

**Electricity Act 1989 – Section 37
Inquiries Procedure Scotland) Rules 1997, as amended
Proposed Beaully to Denny 400kV transmission line.**

**SUMMARY
PRECOGNITION**

on behalf of

STIRLING BEFORE PYLONS

**By Caroline Paterson BA Hons, M.Litt, MA, Mus Dip
with regard to**

LOCAL HEALTH CONCERNS

Caroline Paterson is a mother with two young children living along the route of the Beaully to Denny 400kV proposal. Concern on this issue led to her submitting Petition PE812 to the Scottish Parliament on behalf of Stirling Before Pylons. She has also represented Stirling Before Pylons, and by extension Scotland Before Pylons, on the Stakeholders Advisory Group on Extremely Low Frequency Electric and Magnetic Fields (SAGE).

1. Consultation

1.0 I have already submitted some evidence on consultation as a rebuttal precognition to evidence led by Dr Keith MacLean at the Strategy session. Consultation with the public was minimal and haphazard, and amounted at best to a local road show and notification by the local community councils. At worst, there were residents who received no information about the *preferred* route, only to subsequently find themselves in close proximity to the *indicative proposed* route.

1.2 Failure to engage in discussions with the public on the health issue, and indeed to misinform them on the science is unacceptable. On the grounds of massive local concern alone, the Applicants should have made public health a consideration, but with the then NRPB recommending a government review (SAGE) aimed at reducing exposure, together with the imminent (leaked) publication of the Draper Report it is inexcusable that the public's concerns were overlooked. Dr Keith MacLean's open declaration that "public health had not been a consideration in the routing proposals" at SSE's AGM in Pitlochry June 2005 was a shocking admission.

2. Public Awareness of the Potential Adverse Health Effects of HVOTL in Stirling

2.0 I would not claim to be an expert in the field of power line electric and magnetic fields, and for that reason asked the applicants to address our expert witnesses at the Strategy Session with technical questions. However numerous scientific reports are now readily accessible to the public. Indeed, with the publication of the Draper report in 2005 members of the public along the proposed Beauly to Denny route were able to calculate the increased risk of childhood leukaemia associated with their properties. Many members of the public are aware that exposure to power line EMFs is potentially carcinogenic, though they may not be aware that IARC classified childhood leukaemia as a class 2B carcinogen in 2002. Since 2004 the association with childhood leukaemia has been internationally acknowledged from the WHO to the HPA, and accepted even by Dr W Bailey. The semantics of "association" versus "causal association" is not one which relieves the public of much, if any concern. If population studies consistently show that children living close to HVOTL are twice as likely to develop leukaemia, then that causes the public serious concern. The public

do not need to understand causal mechanisms, neither do they demand absolute lab-based proof of a causal mechanism to continue to be seriously concerned. If studies consistently show a link with adverse health effects, then the public, very reasonably, do not wish their children to grow up exposed to such a risk. When scientists universally concede that such an association exists, whether or not they agree on its cause, the time for precaution has arrived. Once a causal link with serious adverse health effects has been proven, the time for precaution has long since passed.

3. Public Concern on the health issue in Stirling

3.0 With regard to health, we know of hundreds of letters that raised this concern at every stage of the consultation exercise. It took time for the public to become sufficiently educated in this subject to make informed objections, but at the final count there were 13,941 objections which raised health concerns as a primary concern. A large proportion of these are from the Stirling area, where health is a major concern, with this being the most populated section of the proposed route.

3.1 We know of at least 4000 objections raising concerns about health from the Stirling area alone. A large percentage of these objections were pro forma letters but with individually appended comments, many of which expressed incredulity that public health was not being protected, let alone considered. The number of local objections is likely to be much higher, but analysis was done on postcodes alone and these were absent from a large number of Stirling responses, as StBP pro forma letters did not provide a dedicated space for postcodes.

3.2 Massive public concern over the health issue was reflected in the response of MSPs. All the local constituency and list MSPs raised serious concerns about the potential health impacts of the proposal and called for the precautionary principle to be upheld. They gave unprecedented cross-party support for the submission of PE812 (which was accompanied by over 1000 local signatures), and regularly updated the public on this topic in their weekly columns in the *Stirling Observer* (StBP/7/2).

3.3 “The submission of a substantial body of objection indicating a genuinely held concern for public health” was considered to be “a substantial material consideration” by the Council (StBP /7/2/ 4th May 2006). It was raised in several Environment and

Planning Panel meetings, where “one of the main concerns raised was electro-magnetic fields, with the request that SSE work to a 400 metres safety curtain” (StBP /7/2/26th Aug 2004 EV56). Ten community councils along the proposed route through Stirling objected to the proposals, with health effects being raised as a prime concern (StBP /7/2/17th Oct 2005).

3.4 One recognised means of measuring public concern is media coverage. I do not regularly subscribe to Stirling’s main local paper, *The Stirling Observer*, but the numerous articles, including several front page lead articles provide clear evidence for local concern on the health issue (StBP/7/2). This is also true of TV coverage and regular news briefings on the health issue on the local radio station Central FM.

4. Local proximity issues

4.0 A 132kV line already passes to the east of Stirling. To increase the voltage to a double circuit 400kV line presents a completely new scenario with regard to the health of those living in close proximity. Indeed, in England the National Grid identifies the former as a distribution line and the latter as a transmission line. There should therefore be no presumption in favour of following the existing line under such circumstances, particularly where the line passes through residential areas. The Holford Rules state that HVOTLs should be deliberately routed away from residential areas on grounds of general amenity. Indeed SSE and SP’s *preferred* route differed from the existing through some areas, including the Logie area on account of the power companies’ initial attempt to keep 100m distant from all properties (oral communication at Bridge of Allan road show). However, the Applicants subsequently reneged on this and brought the line closer to homes in some areas, potentially within 100m of nearly 20 homes and within 200m of many more.

4.1 The question of how many properties would be detrimentally affected is difficult to evaluate, as the power companies’ have reserved for their contractors the right to move the line during the construction phase, with the width of this deviation corridor varying in different areas. However, the survey work referenced below (Appendix 3) shows vastly increased figures from those referred to by the Applicants and a significant increase on the properties listed in APL 5/7. All references to the numbers

of properties that would be adversely affected are therefore approximate, as the various permutations of a deviating route are too numerous for us to evaluate.

5. Potential health impacts to be imposed on Stirling residents

5.0 Thanks to recent publications the Stirling public has been able to quantify how serious the health effects would be for their property. These studies are publicly available and have received both national and local press coverage.

5.1 For all properties within 200m of the proposal there is a 70% increased risk of childhood leukaemia (Draper 2005). This publicly funded study complimented the internationally acknowledged doubled risk of childhood leukaemia associated with average magnetic fields above 0.4 microtesla (Ahlbom, NRPB, WHO etc) and made the threat more accessible by quantifying the risk in distance from a HVOTL line. There are currently approximately 40 properties which would be within 200m of the line to the east of Stirling, though many more currently face this threat on account of the uncertainty posed by the deviation corridor. This figure will rise in the near future, as there is currently a planning application lodged with the council for the redevelopment of farm buildings for 15 houses, but with changes to Planning Policy SPP15 the owner is likely to want to increase this number, potentially to 42 dwellings within this critical distance of the proposed power line.

5.2 One of the existing properties within 200m of the line is my own family home. When being cross-examined by the Applicants I was pressed into agreeing that my property would not be within 100m. I would like to correct this now – with the deviation corridor at Powis standing at 100m there is every possibility that our home could be within 60m of the 400kV power line, with our neighbours opposite being immediately alongside it. My original statement was not exaggerated as claimed by the Applicant's counsel. However, to some extent this discussion is immaterial, as the difference between an increased risk of childhood leukaemia of 100% and 70% is not significant. Both are clearly unacceptable to any parent or grandparent, or responsible citizen.

5.3 The Alexander Court Hall of Residence at Stirling University could also be within 200m of the 400kV proposal. This university accommodation comprises 45

flats accommodating approximately 332 young adults. The Cross-Party Inquiry report afforded schools the same protection as homes, on account of the enforced exposure of young, physically more vulnerable people for lengthy periods of time.

5.4 There is a five fold increase in certain adult cancers for those who as young children (0-5) are resident within 300m of HVOTL (StBP /7/16: Lowenthal et al 2007). In Stirling there are approximately 100 individual properties within 300m of the B-D proposals, including the University Hall of residence already referred to. Special protection should also be afforded to those in care, yet the William Simpson Care Home at Plean could lie only 250m from the proposal.

5.5 The Draper Report recorded a statistically significant increased risk (23% higher risk) of childhood leukaemia extending to 600m from HVOTL. There could be approximately 600 properties within 600m of the proposed route, (including at least two large multi-occupancy institutions), depending on where within the deviation corridor the line would to be sited. The number of individuals adversely affected therefore runs into several thousand. The primary school at Fallin could stand at approximately 600m from the proposed line, and the new St Modans High School is currently being constructed approximately 1km away from the proposal. In the US, power lines are being rerouted (and undergrounded) away from schools, as a collaborative effort by schools and utility companies (StBP 7/13). It would therefore seem irresponsible to build new lines close to existing schools in the Stirling area, when our young people should be afforded full protection during their education.

5.6 From the above figures it can be concluded that there is no suitable overland corridor to the east of Stirling for this proposed 400kV power line. The route defies the key Holford Rule to avoid residential areas. Although the Applicants failed to consider health concerns, they do claim they have followed the Holford Rules in siting the lines away from homes on grounds of amenity. Why then has the line been brought closer to many homes (and within 100m of some) in the Stirling area (from the preferred to the indicative stages)?

In the absence of any policy advice it is essential that a precautionary approach is adopted. Such an approach must be firmly based on the latest scientific evidence and

guided by the motive to protect public health. Indeed, in 2004 the NRPB recommended that the UK government consider further precautionary measures. Adverse health effects associated with HVOTL EMFs is an established scientific field and deserves to be acknowledged by the Reporters and given serious consideration with regard to this Application – the lives of the most vulnerable people of Stirling depend on it.