

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

**STATEMENT OF CASE**

**on behalf of**

**STIRLING BEFORE PYLONS**

**with regard to**

**POTENTIAL HEALTH IMPACTS**

**To be presented at the Strategic Session of the  
Public Inquiry due to commence on 6<sup>th</sup> February 2007**

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## 1 Introduction

This Statement of Case is submitted by Stirling Before Pylons (StBP) and on behalf of Scotland Before Pylons in relation to the strategic session of the public inquiry due to commence on February 6th 2007 into an application to Scottish Ministers made by Scottish Hydroelectric Transmission Limited (SHETL) and Scottish Power Transmission limited (SPT) to construct a 400kV overhead electricity transmission line between Beaully and Denny.

**This statement of case pertains to the general health impacts of the proposed development.** The specific local health effects and possible alternative local routes will be dealt with at the respective local area sessions of the public inquiry.

Stirling Before Pylons has already submitted a comprehensive objection on a number of different aspects of the proposed development. Some of these issues will be dealt with by others at the Strategic Session. (e.g. need for the new overhead line, and general aspects of undergrounding) Remaining issues will be addressed by Stirling Before Pylons, and others, at the respective local area sessions.

The mitigation of health effects by undergrounding will be briefly dealt with in the case which is outlined in this statement.

The applicants confirmed to StBP and the reporters at the Stirling area Pre Inquiry Meeting on 31<sup>st</sup> October a willingness to involve StBP in discussions to find common ground, and possibly to produce agreed statements on the health issue. No approach has been made as at the date of this Statement of Case.

## 2 Role of Stirling Before Pylons

StBP is a Stirling based community group with members from the wider area. Its constitutional objectives include:

- To minimise the potential health impacts of any route on residents;
- To offer support for the protection of similar areas in other parts of Scotland;
- To communicate as necessary with outside individuals and bodies in the furtherance of said objectives.

StBP is working in close association with ten Stirling area Community Councils. StBP is a member of the umbrella organisation Scotland Before Pylons and this Statement of Case is also submitted on its behalf.

Stirling Before Pylons is keen to aid the smooth running of the Inquiry. To this end, and at the request of the reporters, StBP will present the case on health impacts at the Strategic session of the Public Inquiry. For this purpose StBP will act as a “Relevant person”

### **3 Critique of Chapter 32 of the Environmental Statement**

Chapter 32 of the Environmental Statement contains out of date, inaccurate and misleading information. A large amount of important and relevant information has been omitted. The overall effect is to give a false assurance that the proposed development poses no threat to the health of children and adults. Many questions have not been addressed and no proper risk assessment has been carried out.

The effect of the Applicants' approach is to block the possibility of considering available precautions in respect of potential injury to health in any way at all. StBP believes this to be an unreasonable position in view of the current scientific knowledge and the associated high level of public concern.

Had this part of the Environmental Impact Assessment been carried out properly and accurately StBP believes that the Applicants would have recognised the need to pay much greater attention to potential health impacts. This in turn should have resulted in different routings for certain sections of the line.

The relevant section of StBP's formal objection to the Application will form the basis of the critique of Chapter 32. The text of that section is deemed incorporated here for the sake of brevity.

### **4 Public concern regarding health impacts.**

The Energy Consents Unit of the Scottish Executive has confirmed that 13,941 people (80.85% of Total Objectors) raised *Effects on Health* as an objection to the proposed power line. These people are not interested in hearing a discussion purely on electric and magnetic field strengths. They wish the reporters to hear and evaluate the available evidence, which demonstrates that living near high voltage power lines is a significant risk factor for childhood leukaemia and a number of serious adult conditions.

### **5 Parliamentary concern regarding health impacts.**

Concern regarding power lines and health effects for those living in close proximity was raised following the applicants' failure to consider this issue and move the line away from housing during their two rounds of purported voluntary consultation. In an attempt to address these concerns a petition was submitted to the Petitions' Committee at the Scottish Parliament in Dec 2004, which was deemed admissible. PE812 has cross party support from MSP's, who in the light of the growing scientific evidence have called for precautionary measures to be adopted and a moratorium on the construction of this line in the absence of recommendations from the Stakeholder Advisory Group on EMFs (SAGE). Further consideration of PE812 is stalled pending recommendations from SAGE (expected 20<sup>th</sup> December and reveals an omission in planning guidance for public health issues. The subsequent publication of the Draper Report has strengthened the call for precautionary measures. Concern within the Parliament is also reflected in the formation of a cross party group on power line

EMFs by Mark Ruskell MSP (Green Party). Evidence will be led on this process, and reference made to such conclusions as have been reached.

## **6 Scientific evidence for health impacts and causal mechanisms, and appropriate precautions in respect of scientific evidence-based health concerns.**

The evidence is accessible to people without medical or biological training and will be presented by respected experts. StBP have engaged Prof Denis Henshaw of Bristol University, and Prof Mike O'Carroll of Sunderland University for this purpose. Each will present their precognitions in due course.

In summary, the scientific evidence is now such that future planning of the siting of power lines near inhabited areas will require most careful consideration on health grounds. Appropriate scientific references will be supplied.

## **7 Undergrounding.**

The decision whether or not to use underground cables is not one the Applicants can properly take alone. It is a social decision, reflecting the value to society of doing so. As things stand, it would fall to the Scottish Executive to make that decision. Then Ofgem might allow the cost to be passed on within its price control. Neither the applicants nor Ofgem can be seen to promote the extra cost of undergrounding.

Undergrounding greatly mitigates health impacts. The electric field is completely eliminated, and the magnetic field falls away very rapidly to the side of buried cables.

## **8 Witnesses**

- **Prof Denis Henshaw and Prof Mike O'Carroll** (who are both members of SAGE, and members of the Power Lines and Property subgroup) will present scientific evidence concerning health impacts and causal mechanisms, and evidence on precaution in respect of scientific evidence-based health concerns.
- **Ian Paterson**, Chairman of Stirling Before Pylons, will present evidence regarding a critique of Chapter 32 of the E.S.
- **Caroline Paterson**, SAGE member, will present evidence on public and parliamentary concern regarding health impacts.

Estimated time for these witnesses to give their evidence is two days.

StBP will be represented by Counsel.

## **9 Conclusion**

**StBP** submits that it is the duty of the reporters, and part of the function of this inquiry to listen, understand, and comment upon the evidence which is brought to inquiry on this subject. StBP is well aware that there is a wide range of conflicting views on this subject and that it will be difficult for the Reporters to reach a concluded view on the matters raised. That is not to say that effort must not be made.

Subject to the Reporters' discretion (in the rules) to admit or reject evidence on grounds of its *prima facie* relevancy, the matters to be raised, which are foreshadowed in this Statement of Case, are all submitted to be germane to both the issue of need for this power line, and its proposed positioning in or near habitation. The strategic session is the proper place for discussion of these issues.

Aside from these considerations, it is apparent that the potential for adverse health effects flowing from the proposal are issues of great public concern, and require to be discussed in this forum, where they may receive public scrutiny and be subject to cross-examination by the applicants, whose assertion is that these fears are groundless. If that be the case, then there is nothing to be lost by considering the evidence in detail, and ultimately asking the Reporters to draw such conclusions as they are able to from the evidence.

These objectors will show in evidence that the applicant's response to the litany of "health objections" is inadequate, in all the circumstances, and has not properly been assessed in the E.S.

They will demonstrate further that reliance on out-of-date guidelines is unsafe and unsound; that there are, as a matter of reasonable scientific conclusion, potential health impacts which have relevance to the issue of consent for the proposal; that public concern is soundly and reasonably based; that in the absence of dependable conclusions as to safety, the precautionary principle must be applied when considering recommendations to Ministers; and that ultimately the Reporters' recommendation, based as it must be upon the evidence, to Ministers must be one for refusal of the application.

## **10 Documents**

Reference may be made to planning policies and decisions which are in the public domain and which will be expected to be treated as core documents. Other relevant published material is indicated in the Appendix to this Statement of Case.

StBP may extend or amend this Statement of Case in matters affecting either its scope or its detail, in light of any additional or amending information provided by parties or emerging from relevant sources in relation to the application.

## 11 Appendix

Documents to which reference may be made with citation and documentation as appropriate.

AHLBOM, A., DAY, N, FEYCHTING, M., ROMAN, E., SKINNER, J., DOCKERTY, J., MCBRIDE, M., MICHAELIS, J., OLSEN, J. H., TYNES, T. AND VERKASALO, P. K., A pooled analysis of magnetic fields and childhood leukaemia, *British Journal of Cancer* 83(5), 692-698, 2000.

CALIFORNIA HEALTH DEPARTMENT, 2002 An evaluation of the possible risks from electric and magnetic fields (EMFs) from power lines, internal wiring, electrical occupations and appliances. (Eds: Neutra, DelPizzo and Lee). California EMF Program, 1515 Clay Street, 17<sup>th</sup> Floor, Oakland, CA 94612, USA. <http://www.dhs.ca.gov/ehib/emf/RiskEvaluation/riskeval.html>

CHILDREN WITH LEUKAEMIA Public Opinion Omnibus Survey June 2006

GREENLAND, S., SHEPPARD, A. R., KAUNE, W. T., POOLE, C. and KELSH, M. A., 2000. A pooled analysis of magnetic fields, wire codes and childhood leukaemia. *Epidemiology*, **11**, 624-634.

DRAPER, G., VINCENT, T., KROLL M.E., SWANSON, J., Childhood cancer in relation to distance from high voltage power lines in England and Wales: a case control study. *British Medical Journal*, **7503**, 1290-1292.

FEWS, A.P., HENSHAW, D.L., WILDING, R.J. and KEITCH, P.A. Corona ions from powerlines and increased exposure to pollutant aerosols. *International Journal of Radiation Biology*, **75**(12), 1523-1531, (1999).

FEWS, A. P., WILDING, R. J., KEITCH, P. A., HOLDEN, N. K. and HENSHAW, D. L., 2002. Modification of atmospheric DC fields by space charge from high-voltage power lines. *Atmospheric Research*, **63**, 271-289.

HENSHAW, D. L. and REITER, R. J., 2005. Do magnetic fields cause increased risk of childhood leukaemia via melatonin disruption? *Bioelectromagnetics* Supplement 7, S86-S97.

HENSHAW, D. L., 2002. Does our electricity distribution system pose a serious risk to public health? *Medical Hypotheses*, **59**(1),39-51.

IARC Monographs of the Evaluation of Carcinogenic Risks to Humans, 2002. Non-Ionizing Radiation, Part 1: Static and Extremely Low-Frequency (ELF) Electric and Magnetic Fields. Volume 80, 19-26 June 2001, IARC Press, 150 Cours Albert Thomas, F-69372 Lyon Cedex 08, France.

NATIONAL INSTITUTE OF ENVIRONMENTAL HEALTH SCIENCES (NIEHS), 1999, NIEHS Report on Health Effects from Exposure to Power-Line Frequency Electric and Magnetic fields. *NIH Publication* No. 99-4493, P. O. Box 12233, Research Triangle Park, NC 27709.

NATIONAL RADIOLOGICAL PROTECTION BOARD, (NRPB), 2001a. ELF Electromagnetic Fields and the Risk of Cancer: Report of an Advisory Group on Non-ionising Radiation. *Documents of the NRPB*, **12**, No. 1.

NATIONAL RADIOLOGICAL PROTECTION BOARD, (NRPB), 2001b. ELF Electromagnetic Fields and Neurodegenerative Disease: Report of an Advisory Group on Non-ionising Radiation. *Documents of the NRPB*, **12**, No. 4.

NATIONAL RADIOLOGICAL PROTECTION BOARD (NRPB, 2004). Particle Deposition in the Vicinity of Power Lines and Possible Effects on Health *Documents of the NRPB*, **15**, No. 1. Chilton, UK. HMSO, London ISBN 0-85951-531-1.

SCOTTISH PARLIAMENTARY MINUTES relating to consideration of Parliamentary Petition PE812

STIRLING BEFORE PYLONS formal response to the Application submitted 12<sup>th</sup> December 2005 to the Scottish Executive Energy Consents Unit.

UK CHILDHOOD CANCER STUDY INVESTIGATORS, 1999. Exposure to power-frequency magnetic fields and the risk of childhood cancer. *The Lancet*, **354**, 1925-1931.

Full references for the documents listed below will follow shortly.

REVOLT Position Statement

WHO draft Framework 2006

Possible docs: Maisch; Hardell; Slesin. also Wegman (re. networking in global warming advice); O'Carroll & Henshaw (audit).

Better Regulation Commission, *Risk, Responsibility and Regulation – Whose risk is it anyway?*, October 2006.

House of Commons Science and Technology Committee, *Scientific Advice, Risk and Evidence Based Policy Making*, Seventh Report of Session 2005 –06, HC 900-1.

European Environment Agency, *Late lessons from early warnings: the precautionary principle 1896 - 2000*, Environmental issue report No. 22, 2001.

O'Carroll, M., & Henshaw D.L., "Childhood Leukaemia Plus," 2006

Important relevant information may be found on the following website:

<http://www.electric-fields.bris.ac.uk/>

in particular see:

<http://www.electric-fields.bris.ac.uk/ocarroll.html>

<http://www.electric-fields.bris.ac.uk/euhealthresponse.html>