

PETITION BY THE ALLIANCE FOR NATURAL HEALTH

URGENT REVIEW ON THE ASSESSMENT AND MANAGEMENT OF THE PUBLIC HEALTH RISK FROM ELECTROMAGNETIC FIELDS

Petition by: Dr Robert Verkerk, executive and scientific director of the Alliance for Natural Health

Contacts: Alliance for Natural Health, The Atrium, Curtis Road, Dorking, Surrey, RH4 1XA, United Kingdom
Tel: +44 (0)1306 646 600
Email: info@anhcampaign.org
Web: www.anhcampaign.org

Intended beneficiaries: electrohypersensitive persons, children and all other persons exposed to electromagnetic fields (EMFs) emanating from mobile telephones, telecommunications masts, DECT phones, wireless communication devices, powerlines and other sources of radiofrequency/microwave radiation (RF/MW) and extremely low frequency electromagnetic radiation (ELF).

Petition Host: Kathy Sinnott, Member of the European Parliament [MEP] from Ireland South

Objective of Petition

The main objectives of this petition, which require the urgent attention of the European Commission, the European Parliament and Member State governments, are summarised below:

- 1) Establish a non-partisan committee of scientists for the purpose of conducting a full, independent risk assessment of human exposure to EMFs based on the most recent scientific evidence;
- 2) The review should be extended to include an independent evaluation of all existing reference values for both RF/MW and ELF as determined by the International Commission for Non-Ionizing Radiation Protection (ICNIRP);
- 3) Consideration of alternative reference values and maximum limits in the event that it is shown that the ICNIRP reference values are substantially inadequate for the purpose of offering a high degree of consumer protection, under the principles of European and international law;
- 4) Expedite the passage of necessary legislation to ensure that all devices which emit RF and ELF meet any revised limits which should be made legal

maximum safety limits rather than recommended guidelines or reference levels;

- 5) Ensure the public is adequately informed about the potential risks of long-term use of devices which emit significant RF/MW radiation as well as being made aware of cumulative risks, risks to susceptible population groups and ways of reducing or minimising exposure to potentially harmful EMFs;
- 6) Promote improved recognition and diagnosis of electrohypersensitivity by health professionals as well as education on appropriate remediation and recognition of electrohypersensitivity as a functional impairment;
- 7) Prioritise the funding of relevant research on risk and mechanisms of biological and genetic effects.

Background

Since the Second World War, exposure to EMFs has increased exponentially. While the electrical and communication technologies associated with both ELF and RF have given us many benefits associated with improved communications, in turn stimulating the most rapid technological advances seen in human history, there has not been a corresponding effort to evaluate and manage the risks of increasing exposure to these invisible energy sources.

Everyone today is exposed to many types of EMF, two of the most common being: (1) radiofrequency radiation (RF) from wireless devices such as mobile phones and cordless phones, cellular antennas and towers, and broadcast transmission towers; and (2) extremely low frequency electromagnetic fields (ELF) from electrical and electronic appliances and power lines. There is no doubt that all foetuses, children and electrohypersensitive persons are among the most at risk population groups. However, because of the latency of some effects, which may lead to an increase in the risk of certain diseases like cancer and neurodegenerative diseases, following decades of low level exposure, the European institutions have a duty, given their remit to ensure a high level of consumer protection in the European Union, to assess and manage the risk of EMFs. There is ample evidence that the assessment, communication and management of risks associated with EMFs is grossly inadequate.

The human body is itself bioelectric and over the last few decades it has been well established scientifically that many parts of the body, including the brain, the skin, the immune system and even human DNA may be adversely affected by EMFs, sometimes following exposures that are hundreds or even thousands of times below the guideline levels currently deemed as safe by ICNIRP (in Europe) and the Federal Communications Commission (in the USA).

The existing excessively high safety limits or guidelines set by these authorities are largely the result of consideration of risks associated with thermal (heating) effects of EMFs. They ignore more recent, highly disconcerting published scientific evidence of non-thermal effects and effects induced by very low-intensity EMF.

Human health effects caused by low level and long-term exposure to EMFs

There is a growing body of evidence linking typical human exposure to EMFs from wired and wireless electrical and telecommunications technologies to DNA (genotoxic) damage, dermatological reactions, headache, fatigue, sleeplessness, dizziness, changes in brainwave activity, and impairment of concentration and memory. Lethal effects, such as the triggering of leukemia, brain tumours and development of Alzheimer's Disease and Amyotrophic Lateral Sclerosis (ALS) have also been associated with exposure to EMFs.

Research on the relationship between EMF exposure and brain tumours (malignant glioma) or acoustic neuromas (cancer of the auditory nerve in the brain), especially that carried out by Dr Lennart Hardell MD, PhD, Professor at University Hospital in Orebro, Sweden, shows overall a 20% increased risk of brain tumour with 10 years of typical use of a mobile phone. However, the risk increases to 200% (a doubling of risk) for regular users of mobile phones who generally use the phone on the same side of the head. Dr Hardell and colleagues have recently published a meta-analysis of relevant studies that shows a consistent pattern of association between mobile phone use and ipsilateral glioma and acoustic neuroma when latency periods of 10 or more years are considered (Hardell L, Carlberg M, Söderqvist F, Hansson Mild K. Meta-analysis of long-term mobile phone use and the association with brain tumours. *Int J Oncol.* 2008; 32(5): 1097-103).

The International Agency for Cancer Research (IARC) and World Health Organization (WHO) both classify ELF and EMF as a 2B (Possible) Human Carcinogen.

The risk to foetuses and children is particularly high owing to increased penetration into the brain (smaller head size) and reduced resistance to penetration (thinner skulls) as well as likely whole lifetime exposures.

Professor Olle Johansson, from the Experimental Dermatology Unit, Department of Neuroscience, Karolinska Institute, Sweden, was one of the first investigators to describe the phenomenon of electrohypersensitivity, a condition that is officially recognized by Swedish health authorities as a functional impairment, as opposed to a disease. Surveys show that between 230,000-290,000 Swedish men and women report a variety of symptoms following exposure to EMF sources (Johansson O. Electrohypersensitivity: state-of-the-art of a functional impairment. *Electromagn Biol Med.* 2006;25(4):245-58. Review). It is of paramount importance that the extent and nature of this impairment is researched further, both in Sweden and in other parts of Europe.

These and other risks have been documented thoroughly in the scientific literature and have been collated in a recently released report entitled *BioInitiative Report: A Rationale for a Biologically-based Public Exposure Standard for Electromagnetic Fields (ELF and RF)* [2007], edited by Professor David O. Carpenter and Ms Cindy Sage, which is available for download at www.bioinitiative.org.

The inappropriate basis of existing safety limits

Existing guidelines for safety limits as set by ICNIRP are based on assessment of the risk of thermal effects of EMFs. Despite recent evidence of the importance of non-thermal and very low-intensity effects, where adverse effects may result from exposures that are several orders of magnitude lower than existing limits, there has not been any change to government approved guidelines. Nor has there been any concerted attempt to manage the risk, using a precautionary approach, through policy or education.

The SCENIHR Opinion (European Commission Study of EMF and Human Health) of 2001, updated in 2007, does not begin to adequately address the full body of published scientific evidence, nor does it include consideration of available data relating to persons known to suffer as a result of their electrohypersensitivity.

Urgent Actions Required to Protect Public Health from electromagnetic fields

The following proposed actions are recommended for urgent consideration:

- 1) Establish a non-partisan committee of scientists, including those specialising in the investigation of EMFs on susceptible groups, for the purpose of conducting a full, independent risk assessment of human exposure to EMFs based on the most recent scientific evidence. This assessment should include consideration of chronic exposure, non-thermal and very low-intensity effects as well as potential effects on children, foetuses and other susceptible groups. It should be conducted in a fully transparent manner, according to the requirements of European law, and should include full consideration of risks that are presently regarded as non-established;
- 2) The review should be extended to include an independent evaluation of all existing reference values for both RF/MW and ELF as determined by the International Commission for Non-Ionizing Radiation Protection (ICNIRP), utilizing the very latest and most complete scientific and clinical evidence, while also considering the precautionary principle in the face of scientific uncertainty;
- 3) Should the results of the review suggest that the ICNIRP reference values are substantially inadequate for the purpose of offering a high degree of consumer protection, under the principles of European and international law, the reliance on ICNIRP reference values should be disbanded and new reference values and maximum limits should be put into place as a matter of urgency;
- 4) Expedite the passage of necessary legislation to ensure that all devices which emit RF and ELF meet these lowered limits which should be made legal maximum safety limits rather than recommended guidelines or reference levels;
- 5) Ensure the public is adequately informed about the potential risks of long-term use of devices which emit significant RF/MW radiation as well as being

made aware of cumulative risks, risks to susceptible population groups and ways of reducing or minimising exposure to potentially harmful EMFs;

- 6) Promote improved recognition and diagnosis of electrohypersensitivity by health professionals as well as education on appropriate remediation and recognition of electrohypersensitivity as a functional impairment (as already is the case in Sweden), leading to full accessibility measures and a life of equality for hypersensitive individuals;
- 7) Prioritise funding of research to fully assess the risks and safety thresholds for humans exposed to EMFs, as well as understanding of mechanisms contributing to biological and genetic effects.

Support of this petition

Following a review of this petition at a meeting of scientists entitled *“Electromagnetic Phenomena and Health—A Continuing Controversy?”* at the Institute of Physics, London, on 10th September 2008, the petition received full support from the following leading scientists in the EMF field:

- **Professor Olle Johansson** [Head of the Experimental Dermatology Unit at the Karolinska Institute’s Department of Neuroscience; Professor at the Royal Institute of Technology in Stockholm, Sweden]
- **Professor Henry Lai** [Department of Bioengineering, University of Washington, USA]
- **Professor David O. Carpenter** [Institute for Health and the Environment, University at Albany, State University of New York, USA]
- **Professor Yury Grigoriev** [Chairman of Russian National Committee on Non-Ionizing Radiation Protection; Director of Centre for Bioelectromagnetic Compatibility; Chief Researcher Laboratory of Radiobiology and Hygiene for Non-Ionizing Radiation; Deputy Director and Chief Scientific Researcher Russian Institute of Biophysics; Deputy Director Institute of Medico-Biologico Problems; member of National Commission on Ionising Radiation Protection]
- **Professor Emeritus Derek Clements-Croome** [School of Construction Management and Engineering, University of Reading]

In addition, the petition has also been supported by:

- **Professor Lennart Hardell** [Department of Oncology, University Hospital, Orebro, Sweden]
- **Cindy Sage MA** [Sage Associates, Santa Barbara, California]