

The International EMF Project

Health and Environmental Effects of Exposure to Static and Time Varying Electric and Magnetic Fields

Minutes of the Fifth International Advisory Committee Meeting 19-20 June 2000, Geneva

Welcome

Dr. Richard Helmer, Director, Department of Protection of the Human Environment, welcomed the delegates to the meeting on behalf of Mrs. Poonam Khetrapal Singh, Executive Director of the Cluster on Sustainable Development and Healthy Environments. He outlined the new WHO structure that had evolved over the past year, including the forthcoming transfer of Mrs. Singh. Special welcomes were extended to Dr. John Osepchuk from the United States, and Dr. C. Barceló Perez from Cuba, whose country was being represented for the first time.

Dr. Repacholi extended his welcome as Manager of the EMF Project. He indicated that an important goal of the meeting was to review and approve several proposed Fact Sheets (see appendix).

Participants at the meeting introduced themselves.

1a) Election of Chair and Vice-Chair

Delegates appointed Dr. Tom McManus as Chair, and Dr. Eric van Rongen as Vice Chair and Dr. Kenneth R. Foster as Secretary/Rapporteur.

1b) Adoption of agenda

The agenda was adopted by consensus.

2a) Project organization Covered during welcoming remarks.

2b) Project update

Dr. Repacholi made reference to the draft Progress Report for the current year (September 1999-September 2000) and asked delegates for input on its content.

He summarized the major projects of the EMF Project that are currently ongoing, including several Fact Sheets, and consensus reviews of the possible health and safety issues at intermediate frequency ranges (300 Hz – 3 MHz) and environmental effects of EMF. He noted the recent report by the Independent Expert Group on Mobile Phones (the so-called *Stewart Report*) from the UK on health and safety issues related to mobile telephones and base stations. Other ongoing projects include a monograph on risk perception and communication, and biological effects of pulsed EMF

Dr. Repacholi gave an update on the process of standards harmonization, which is an important current goal of the EMF Project. He indicated that WHO normally gives advice based on scientific

information, but that there has been increasing emphasis around the world on precautionary approaches. He noted the position of WHO that exposure guidelines should be based as far as possible on scientific evidence, but that precautionary measures can be taken by individual countries. Precautionary measures should be cast in the form of voluntary recommendations instead of through an arbitrary rewriting of exposure guidelines.

3a) Highlights of National Concerns

China (X. He) China has a rapidly increasing number of mobile phone users. He indicated that China would join the EMF Project in the coming year.

Canada (A. Thansandote) The Canadian government passed its most recent set of exposure guidelines in the past year. There remains, however, a substantial amount of public feeling that the standards do not adequately consider nonthermal effects. He noted that there have been calls for precautionary approaches to regulation of EMF, in particular in siting mobile telephone base stations. He also noted that substantial levels of public concern remained about video display terminals and powerline fields.

Republic of Korea (Y-P Kim) Korea recently adopted the ICNIRP guidelines

New Zealand (S. Gilbert) presented her report for New Zealand. She noted that the Government had recently issued a draft discussion document on a new guideline for EMF exposure. Other projects include an analysis of a recent report by N. Cherry (alleging health effects of mobile telephones).

Israel (S. Kandel) An RF exposure guideline based on ICNIRP is being drafted. There is considerable public concern that the ICNIRP guidelines do not effectively address nonthermal effects. She indicated that powerline fields have become a greater public issue. She noted that there had been a riot that resulted in tearing down five cellular towers. A national plan is being prepared for siting mobile base stations. Legislative proposals are being considered for “health warnings” on mobile telephones, and for a national research funding program to study health effects of RF energy.

Japan (C. Ohkubo) Recent developments in Japan include plans for new research programs on EMF bioeffects. The Committee of the Study on Human Exposure to EMF plans to investigate the effects of electromagnetic waves on the human body, including an epidemiological study implemented by IARC, and 2 years partial exposure study in rats for evaluating brain tumorigenesis funded by the Ministry of Posts and Telecommunications. Long-term exposure effects of 50 Hz magnetic fields up to 250 microT on mammary tumors in rats funded by the Agency of National Resources and Energy, the Ministry of International Trade and Industry, showed negative results (22nd BEMS, Munich).

UK (J. Arwel Barrett) The IEGMP (Stewart) report was just released, which recommended precautionary approaches. The UK government response to the Stewart Report has just been released. Recent meetings in the UK and Scotland focused on planning issues related to new mobile base stations and to develop a coherent set of precautionary policies. There is a major UK contribution to the IARC cancer risk assessment project for ELF.

France (L. Miro) reported on current developments in France. The French Ministry of Health regards the issue of health effects of powerline fields as having disappeared in France but that public concerns about mobile phones are increasing.

Russia (Y. Grigoriev) reported on current developments in Russia. The Russian Committee for Non-Ionizing Radiation Protection holds meetings on a regular basis. The working plan for the committee for 2000 was sent to WHO and ICNIRP for review and coordination. There was a conference on EMF standards harmonization in Moscow in Sept. 1999, co-sponsored by WHO. A new standard for exposure to 50 Hz EMF was passed in 1999.

Czech Republic (L. Pekárek) The Czech Republic is considering adopting the ICNIRP guidelines, but there is concern (particularly among scientists who were involved in drafting earlier versions of the Czech guideline) that ICNIRP does not offer adequate protection against low level effects.

Switzerland (V. Mercier) Late in 1999 the Swiss government passed new precautionary limits on EMF exposure from emissions from stationary installations (e.g. powerlines and RF transmitters). The basic limits correspond to ICNIRP. The ordinance also includes precautionary limits for sensitive areas (playgrounds, hospitals, residential areas). There is considerable public concern about emissions from mobile telephones. A recent decision was made to provide health labels on cellular telephones.

Ireland (T. McManus) The recent UK report on ELF fields and cancer has led to a significant reduction in public health concerns about powerline fields; however public opposition to new powerlines has not abated. Concern continues over mobile phone masts. A recent report from Ireland, comparing RF exposure levels from various transmitters, seems to have led to a reduction in public concerns about possible health effects of mobile telephone base stations.

Italy (P. Vecchia) Italy recently instituted precautionary limits for RF energy. Public concerns about RF energy are very strong. A conference was recently held in Italy on electromagnetic pollution, and calls from within Italy to have the European Union reconsider its endorsement of ICNIRP. He indicated that the projected costs of the precautionary policies in Italy against EMF are in the range of 30 billion Euros for power lines only.

Australia (J. Loy) Australia is in the midst of developing new standards. A recent effort to develop a joint standard with New Zealand was unsuccessful. Australia is attempting to develop a health-based standard, with supplementary code of practice that addresses public concerns.

Germany (A. Boettger) The German government plans an 18 month dialog with stakeholders in the issue. He expressed a need for a global agreement about the use of precautionary policies.

Belgium (M. Hinsenkamp) reviewed developments in Belgium. One important issue is electrical sensitivity. There is a lot of public concern about possible effects of cell base stations. The Belgium government is about to adopt a standard. The limits are not established yet, but there are competing proposals for a precautionary limit of 3 V/m and for the ICNIRP limits.

Cuba (C. Barceló) reported on the state of the issue in Cuba. He indicated that sanitary and epidemiological studies were performed in recent years, assessing population exposure to EMF from civil broadcasting antennas and HV electric power lines, analysing possible linkages with cancer death rates in urban areas. He indicated that plans are underway for continuing research, and

promoting not only standardization for the country, but also a future environmental surveillance system addressed to health protection from EMF hazards.

Netherlands (E. van Rongen) The Health Council of the Netherlands in March 2000 issued a report on ELF fields with recommendations for exposure limits based on acute effects with a chapter on possible long term effects. The conclusion (which was based on the US NIEHS report) was that there are not sufficient indications of a causal link between EMF exposure and childhood leukemia to warrant health policies. The Minister for the Environment is evaluating possible actions. At present concerns about RF energy seem to be more prominent public issues. He showed a book on RF exposures for the general public, and indicated that there were proposals to develop national exposure guidelines.

3b) Collaborating Organizations

ITU (Mrs. J. Katona-Kiss) ITU has developed a guidance on complying with limits for human exposure to EMF, and another on protection against electromagnetic environment effects (principally, against electromagnetic interference)

Bundesamt für Strahlenschutz (Germany) (R. Matthes) A large epidemiology study was nearing completion on childhood leukemia and powerlines. It is planned to increase the budget of the planned study on cancer and use of mobile telephones, done in association with IARC. Research is being planned on electromagnetic hypersensitivity.

NRPB, UK (A. McKinlay) NRPB had just completed a comprehensive survey of levels of possible human exposure in proximity to mobile phone base stations. Investigators at NRPB had completed numerical dosimetry studies on human exposure to radiofrequency radiation. In his role as Chairman of ICNIRP, he summarized recent developments within ICNIRP. These included, three separate comprehensive reviews of epidemiological, biological and dosimetric studies related to human exposure to ELF respectively. These will be published in 2001.

ILO (S. Niu) ILO has been reviewing literature on the EMF health issue. Dr. Niu reviewed the publications of ILO on EMF related issues.

IEC (Goldberg) IEC does not develop exposure guidelines but considers technical (or measurement-related) issues, including emission limits for products. IEC expressed a desire to work closely with ICNIRP and IEEE SCC28 to develop a consistent exposure guideline.

USAF Laboratory, Brooks AFB, USA (M. Murphy) A large number of health related research is presently underway related to RF exposure, including projects related to cancer, microwave auditory effect, and effects of UWB pulses. The laboratory is now the lead for US DoD RF standards activities, and is working in support of the IEEE C95 standard.

IEEE SCC 34 (J. Osepchuk) J. Osepchuk reviewed recent activities of this standards setting organization.

NIES (Japan) (M. Kabuto) Japanese reaction to health concerns about RF energy have been somewhat more conservative than in Europe, and precautionary responses are not being entertained by the government at present. A large epidemiology (case-control) study is ongoing to examine possible links between exposure to powerline fields and childhood cancer.

IARC M. Repacholi presented a brief update of EMF studies by IARC. The agency has received funding (approximately 4 M Euros) for a large epidemiology study of cell phone use and head and neck cancers by the European Commission. Fourteen countries will participate in this study, which is anticipated to include 1500 cases (brain and neck tumors) and 1500 controls. The study is in pilot phase, and is expected to be completed within 3 years.

European Commission (M. Seguinot) EC recommendations for health guidelines for EMF should be based on exposure to the general population (not workers). The exposure guidelines are based on ICNIRP and apply to any sources of emission including GSM.

4. Review and approval of draft fact sheets A considerable time was spent reviewing and suggesting changes to the following draft WHO fact sheets:

Electromagnetic Hypersensitivity
Mobile Telephones and Their Base Stations
Regulation of Public Exposure to EMF

M. Repacholi agreed to revise the draft fact sheets accordingly and circulate them to the advisory committee within a week for final approval.

The meeting was adjourned for the first day at 1730.

The meeting was reconvened for the second day on 20 June at 0900.

5. Other Business

5a) Timetables of activities – see Progress Report

5b) Future meetings

Participants at the meeting called the group's attention to two forthcoming meetings:

Radiofrequency EMF: Effects on Health: Conference in European Parliament, Brussels, Belgium, 29 June 2000.

UNESCO Seminar on Cellular Mechanisms of Beneficial and Harmful Effects of Electromagnetic Fields: Yerevan, Armenia 24-30 September 2000. For further information contact: Prof. Sinerik Ayrepetyan, Life Sciences International Higher Education School, Armenian National Academy of Sciences, 7 Hasratian St. Yerevan 375014, Armenia. Tel: +3742 281772, Fax: +3742 288427, E-mail: biophys@ipia.sci.am

Millenium Workshop on Biological Effects of Electromagnetic Fields: Crete, Greece 17-20 October 2000. For further information contact: Dr Panos Kostarakis: Tel +30 1 650 3208, Fax +30 1 653 2910, E-mail millenium@ariadne-t.gr

2nd International EMF Seminar in China: Electromagnetic Fields and Biological Effects: Xi'an, China 23-26 October 2000. Sponsored by Ministry of Health (China), WHO and ICNIRP. Official language of meeting is English.

WHO EMF Research Coordination Meeting: Brooks Air Force Base, San Antonio, Texas 13
November 2000

WHO EMF Standards Harmonization Meeting: Brooks Air Force Base, San Antonio, Texas 15
November 2000

6. Adjournment. The meeting was adjourned on 1300 June 20, 2000