

# THE INTERNATIONAL EMF PROJECT

## Minutes of the 15<sup>th</sup> International Advisory Committee meeting

Hotel Ibis Mériadeck, Bordeaux, France  
24-25 May 2010

*Prepared by M Gledhill, NRL, New Zealand*

### **Monday 24 May**

#### **Session 1: Opening of Meeting**

Dr Emilie van Deventer opened the meeting by welcoming the participants and thanking the local organisers, Dr Bernard Veyret and Dr Isabelle Lagroye, for their work. Participants introduced themselves and the organisations they represented.

Dr Art Thansandote, Health Canada, was elected chair and Dr Bernard Veyret, IMS-CNRS/EPHE Laboratory, University of Bordeaux, as vice-chair. The proposed agenda was adopted. Dr van Deventer reminded participants of the purposes of the IAC, and that this forum provided an opportunity for national representatives to provide feedback to the Project on the current work plan and national needs. She welcomed Lisa Ravenscroft, administrative assistant, back to the Project.

#### **Session 2: Update on the International EMF Project**

Dr van Deventer spoke to her report, and how the Project fits within the core functions and the structure of WHO. There are now 60 national authorities involved in the Project.

Funding continues to be entirely from external contributions, with WHO auditing the income and expenditure, and new sources of funding are always being sought. As well as funding from national authorities, the Project receives in-kind contributions in the form of staff time to assist with particular projects, hosting meetings etc. In the latter respect, Dr van Deventer thanked the French Ministry of Health and AFSSET (French Agency for Environmental and Occupational Health and Safety) for their financial support for this IAC meeting held in France.

Lisa Ravenscroft was welcomed back to the Project staff after a few months working elsewhere at WHO, and her return will mean that the Project website will now be updated more frequently. A questionnaire will be posted on the website soon after the meeting to allow national authorities to provide feedback on the IAC meetings and the Project.

### **Session 3: Report on EMF Activities from Collaborating Centres and International Organizations**

#### ***ARPANSA (Australia) - Lindsay Martin***

ARPANSA provided an update on current projects, including their ELF Standard. They are currently assessing RF literature published since their RPS3 RF Standard was finalised in 2002 to determine whether a formal review is needed.

#### ***The German Radiation Protection Office BfS (Germany) - Dirk Geschwentner***

BfS noted new legislation covering NIR in Germany which focuses on commercial and medical use. Further regulations can be made by Ordinance, and an EMF Ordinance is being prepared with an anticipated completion of late 2010.

Public concerns centre on new technologies (such as LTE) and new installations (such as transmission lines to service offshore wind farms). Research projects covering ELF fields from transmission lines, ELF fields from hybrid cars and high frequency whole body scanners have been finalised, and there is ongoing work on various sources of EMF exposure, and investigating the effects of various EMFs from static to THz frequencies. Further work investigating issues related to childhood leukemia have been given a high priority.

#### ***Health Protection Agency HPA (United Kingdom) - Simon Mann***

The **HPA** (UK) drew attention to the government's response to the first SAGE report. The government had supported various options, including optimal phasing of powerlines, but had rejected "corridor" options, under which minimum distances would be set between developments and power lines and vice versa, as disproportionate in the light of the evidence. The second SAGE report, on low voltage lines, will be published soon. The WiFi project is now drawing to a close, and the HPA has been involved in various dosimetry projects at RF and ELF frequencies. A new dielectric laboratory has been established to get better data on tissues. The Advisory Group on Non-ionising Radiation is part way through a review of RF fields.

#### ***The International Labour Organization (ILO) - Shengli Niu***

The **ILO** has decided not to include RF diseases in their updated list of occupational diseases but will keep them under consideration. A new edition of the international encyclopedia of Occupational Health will, however, review EMF issues. The ILO, through its SafeWork programme, is keen to continue cooperation with WHO on EMF issues in occupational health.

#### ***The European Commission COST BM0704 action - Mirjana Moser***

The European **COST BM0704** action is now in its second year and continues its emphasis on multidisciplinary approaches. A report on the use of "-omics" tests should be published soon, and other work includes investigation of trust in science, and evaluating the credibility, reliability and objectivity of science advisory committees.

#### ***The European Commission EFHRAN Project - Paolo Ravazzani***

**EFHRAN** (European Health Risk Assessment network) has published several reports including risk analyses of vivo and in vitro research, and of human exposures. These use an IARC-type classification.

***The International Commission on Non-Ionizing Radiation Protection -P. Vecchia***  
**ICNIRP** has published its “blue book” on RF, and reaffirmed the RF section of the 1998 Guidelines. Following open consultation the new ELF Guidelines have been finalised and publication is expected in the September 2010 issue of Health Physics. Future work includes review of the RF section of their exposure Guidelines, and a workshop on NIR and children planned for May 2011.

***The IEEE International Committee on Electromagnetic Safety (ICES) - R. Bodemann***

**IEEE/ICES** paid tribute to the large contribution of the late Joe Morrissey to the EMF and health field. They are developing various Standards on demonstrating compliance with exposure guidelines, such as SAR measurement and calculation, and modelling. These will be published jointly with the IEC. In the light of questions on the sometimes large differences between ICNIRP and IEEE limit values, IEEE/ICES have suggested the formation of a working group with ICNIRP to discuss the variations.

***The International Union of Radio Science (URSI) - Guglielmo d'Inzeo***  
**URSI Commission K** on Electromagnetics in Biology and Medicine, is preparing white paper on wireless communication and health.

#### **Session 4: WHO risk management tools**

##### ***Fact sheets***

Emilie van Deventer introduced a discussion on EMF-related fact sheets. In response to a question she said that the new style of WHO Fact Sheets states briefly the main facts on a health topic, and is not considered a venue to make recommendations. She also thanked all the members for their earlier input on the latest fact sheet on mobile phones that had just been released. She explained that the final version unfortunately could not be circulated to IAC members (as would normally happen) ahead of its release because of the embargo on the Interphone study results.

Several participants expressed their appreciation of the fact sheets, and the efforts made to keep them up to date. Some participants mentioned that they have helped decrease concern about base stations, and that they often receive feedback from members of the public on how helpful they are.

There was a suggestion to update the hypersensitivity fact sheet (no. 296) to include recent data on the nocebo effect.

The base station fact sheet (no. 304) will be revised once a review on base station studies had been finalised and published. The driver for this revision was that some activists say that the current base station fact sheet does not take account of recent studies.

##### ***Update of the WHO Local authorities brochure***

Emilie van Deventer gave an overview of the history of the brochure on RF for local authorities (started in 2006), which is intended to help local authority staff respond to queries from the public. Because of the time elapsed since this project started, it does

not include some recent technologies. She proposed convening a small working group to review the content, then pilot their draft in a few countries and municipalities, update the document based on feedback received from pilot tests, before finalising.

Victor Cruz (Peru), Martin Gledhill (New Zealand), Wassim El Hani (Tunisia) and Simon Mann (UK) offered to be on the working Group. Arwel Barrett (UK) offered to help get feedback from the UK. Victor Cruz said that this brochure would be very important for Latin American countries.

Some national documents along the same lines are already available:

- A UK code of best practice on base station implementation.
- A publication from the Japanese Ministry for the Environment.
- A mandatory Australian Industry Code of Practice.
- The Swiss Federal Office for Environment *Guidelines for Communes* (available at [www.environnement-suisse.ch](http://www.environnement-suisse.ch)). This gives technical information, regulations, etc, with discussion of Radiation and Health in an Annexe. While users report that it doesn't always meet their needs, it helps start dialogue between parties.

### ***Research database***

The research database, intended to help the EMF Project achieve its aims, was set up when the Project started. While it is mostly of interest to researchers, it could also be helpful for national authorities. However, the last update occurred around one year ago so it is now out of date. Because other sites provide similar services, such as FEMU and IEEE ICES literature databases, it was proposed that the database be discontinued, and that instead the Project would provide links to these other databases.

Comments from IAC members included the following bipolar views:

- As WHO is a neutral body it is important to maintain the database there.
- Discontinuing the database could be contrary to the Project aims.
- The database is also used by activist groups concerned about RF. Such database includes the whole range of available data, and review bodies, such as ICNIRP, or WHO have access and review all the current available data.
- Experience shows that this type of database can be difficult to keep up to date. It is best to do it properly or not at all.
- Agree that the database should be discontinued, and WHO should seek permission from other organisations to link to theirs.
- It would be useful to have a database of research groups, and remind them to send updates to the WHO database. Emilie suggested that this information could be included in country reports, but Arwel Barrett said this would be difficult if many research groups are involved – he focuses on research funded by his government.
- Other organizations should be encouraged to make their databases available.

**Tuesday 25 May**

**Session 5: Review of recent research**

***Laboratory studies - Bernard Veyret***

As in previous years, there were few studies on static and IF fields. While many studies in the ELF and RF frequency ranges showed no effects, there were some positive results on development and reproduction which showed effects, but whose quality was insufficient to draw any conclusions.

The AFSSET review of RF research found that of 124 studies reporting no effects, 73 met their quality criteria, while the quality criteria were met by only 11 of 102 studies which did report effects. (One participant commented that the EMF community should take action to improve the quality of research so that more is useful. Some members of the public, and even some researchers, find it difficult to understand why some papers are rejected because of poor quality.)

***Epidemiological studies – Leeka Kheifets***

In the ELF range, a pooled analysis of ten studies on childhood brain tumours shows no association, and a meta-analysis of six recent childhood leukemia studies finds similar results to those published previously. A study looking at populations living near transformers in apartments, which should give high fields and high contrasts between exposed and unexposed subjects, is continuing.

In the RF range, there have been several studies on behavioural/cognition/learning effects in children who use cellphones. There are positive associations between these outcomes and phone use, but this could be due to the fact of using a phone (a behaviour in itself) rather than the RF fields. The methodology of such studies needs improvement.

***Interphone – Maria Feychting***

Professor Feychting gave an overview of the Interphone findings on meningioma and glioma recently published in the International journal of Epidemiology (May 2010), and the reasoning behind the conclusions drawn from the data. There is no firm date for publication of the results on acoustic neurinoma and parotid gland tumours, and on anatomical locations of tumours. The prospective COSMOS study will extend the investigation to longer exposure times and the more modern technologies used.

**Session 6: Research activities**

***Recent French reviews – Olivier Merckel***

AFSSET published review documents on both RF and ELF fields in the past year. In this work they were assisted by expert groups including, for the RF opinion, experts in human and social sciences. One citizen representative was also included on the RF group. The groups heard from scientists and stakeholders.

The RF opinion recommended that further research should be carried out, including epidemiological studies on base stations. Other recommendations included reducing

exposures to children from mobile phones (for example by encouraging moderate use) and reducing exposures in areas with high ambient exposures.

The ELF opinion found that no change to exposure limits was necessary, but that low or no cost measures should be taken to avoid increasing the numbers of people exposed near power lines. It was proposed that no new real estate development be permitted within 100 metres of power lines. In response to a question, Olivier said that this distance was not based on a cost-benefit analysis, and that it was for government to decide whether to investigate the proposal further.

### ***Update on WHO RF EHC monograph - Emilie van Deventer***

IARC have now fixed a date for their evaluation of RF fields to end of May 2011, and it is intended that the RF EHC monograph should follow within 12 to 18 months later. WHO has discussed sharing the research database with IARC. The monograph will probably be structured by end-point rather than study type, but this has not been finalised. The monograph will require a lot of work, and it is anticipated that lessons learned from the ELF monograph will help smooth the process. A task group has already met to work on the draft.

The EMF Project will need an updated list of experts to review the draft, and sources of funding. It is hoped that the IAC can help in these areas.

### ***2010 WHO RF Research agenda – Emilie van Deventer***

The updated RF research agenda is close to publication ([http://whqlibdoc.who.int/publications/2010/9789241599948\\_eng.pdf](http://whqlibdoc.who.int/publications/2010/9789241599948_eng.pdf)). The intention of this activity is to promote research that is ultimately relevant to public health, that will reduce scientific uncertainties, and that will respond to public concern. The agenda draws on research recommendations recommended by over 80 individual experts.

Research priorities were classified as "high-priority research needs" and "other research needs". Many of the high priority needs centre around research on children, such as prospective cohort studies into cancer, behavioural and neurological effects, and provocation studies. Other high priorities include monitoring brain tumour incidence trends, work to identify the neurobiological mechanisms behind (for example) EEG effects, and animal studies to help understand the effects of early life and prenatal exposure.

The Agenda includes recommendations in the social sciences, but no priorities are set in this topic. Areas requiring work include investigating the effectiveness of different forms of communication about health effects, how perception of health risks affects well being, and how EMF technologies are dealt with in larger social context.

### **Session 7: Emerging issues – exposure assessment of recent technologies**

#### ***Induction stove and energy-saving lamps – Mirjana Moser***

The Swiss Federal Office of Public Health has developed a fact sheet on induction hobs (<http://www.bag.admin.ch/themen/strahlung/00053/00673/03156/index.html?lang=en>)

). In that context, it commissioned the foundation IT'IS to investigate exposures to EMF from induction hobs (which operate at frequencies from 20 - 100 kHz) and compact fluorescent lamps (CFLs). IT'IS found that in normal use exposures at distances greater than 30 cm from an induction hob complied with reference levels. However, if the hob is not properly covered by the pan, and at closer distances, reference levels could be exceeded. A fact sheet based on this work has been very popular, and further work modelling exposures is planned. In response to questions Dr Moser said that they recommend that people with implanted medical devices not use induction hobs – some people have reported problems with pacemakers. Manufacturers are encouraged to provide better information for consumers.

A fact sheet and research study has been commissioned by the Swiss FOPH on energy-saving lamps (<http://www.bag.admin.ch/themen/strahlung/00053/index.html?lang=en>). CFLs operate at 25 – 70 kHz on the secondary side of the ballast. IT'IS found that the assessment needed to be done in terms of basic restrictions rather than reference levels. While there were large variations between lamps, exposures at 30 cm were less than 10% of the ICNIRP basic restriction. Exposure at closer distances is not recommended, in order to minimise UV exposures and EMF exposures.

#### ***Airport body scanners – Eric van Rongen***

Currently available RF-based body scanners operate at 24 – 30 GHz, and rotate an array of antennas around the body with a scan time of just over one second. Measurements and calculations of exposure all confirm that they are extremely low, with measurements and calculations showing levels more than 100,000 times lower than the ICNIRP reference level.

#### **Session 8: EMF Standards database**

Shaiela Kandel discussed progress on the updated EMF Standards database. The intention is to have an interactive database providing comprehensive information on countries, with links to original documents. Data will be displayed on maps, or as comparison tables.

Draft information tables have been piloted and reviewed by some countries. Comments received back suggest that developing clear questions and vocabulary are key to filling the survey. The inclusion of both national and regional policies can complicate the database. Also, variations in matters such as precautionary measures and definition of sensitive areas can also add complication.

The input of the IAC was sought. Amongst the points raised in discussion were:

- The need for authoritative up-to-date information on what is happening in other countries in order to assess claims made by activist groups.
- Perhaps it would be easier if detailed information on justification for particular limits, or regional limits, were referred back to the countries concerned – this would help avoid clogging the WHO website.
- It would be good to provide English translations of material on national websites

- Industry associations have developed factual databases, and they may be willing to assist with information on limits in different countries around the globe.

## **Session 9: EMF policy issues**

### ***US experience (FDA) – A Desta***

There is no centralised management of EMF in the USA. Various committees take an interest in the issue, including the EMF Health Effects group. This group is multidisciplinary and tries to meet people with different points of view. There is also an RF interagency working group, which includes NIOSH and the FCC.

The FDA participated in a recent workshop on thermal effects and considers that a better local RF limit, based on biological response, could be developed.

The FDA does not fund research, but monitors findings, updates safety assessments and encourages research.

### ***European Commission – EMF actions 2010 – Laurent Bontoux***

Activities of the European Commission can be summarized under three headings.

*Further science understanding:* The Commission will hold a scientific meeting in early 2011 to consolidate areas of scientific consensus, identify causes of uncertainty and gaps in knowledge, and recommend a way forward. The Commission is funding an epidemiological study similar to INTERPHONE on young people, Mobi-Kids (<http://www.mbkds.net/>) and Seawind (exposure assessment) projects, and in July 2010 will call for research to investigate the ELF/childhood leukemia link.

*Build trust:* the Commission will launch a small consultative group, representing all stakeholders. The aim will be to have in depth discussions and sustained engagement over the whole EU.

*Policy watch:* There will be increased coordination with WHO, and possibly a revision of the 1999 recommendation to incorporate the new ICNIRP ELF guidelines. Most countries have implemented the 1999 recommendation, but national differences in limits are confusing for the public, and there is possibly a competition to achieve lower limits in some places.

A “Eurobarometer” survey on EMF was undertaken recently as a follow-up to a similar survey in 2006 ([http://ec.europa.eu/public\\_opinion/archives/ebs/ebs\\_347\\_en.pdf](http://ec.europa.eu/public_opinion/archives/ebs/ebs_347_en.pdf)). Overall, EMF was the lowest of peoples’ concerns, and there was lower concern than in 2006. However, there are still a large percentage of people concerned about health risks, but this varies considerably from country to country. There is a strong desire for information, and safety standards for products and research.

### ***PAVEL project – Policy advice in Europe – M Martuzzi***

The objective of the PAVEL project is to find ways to better respond to environmental health challenges. EMF is one of the four case studies chosen (along with nanotechnology, urban planning and climate change), and shares many of the



characteristics of a hard environmental health problem– high risk perception, small risks, high prevalence, big societal benefits, and uncertainty. Progress can be made with meaningful stakeholder participation, getting experts and non-experts to frame and formulate questions carefully, and making exposure information available from different sources.

### **Session 10: Administrative matters – Emilie van Deventer**

*Minutes of previous meeting:* The Minutes of the 14th IAC meeting were accepted (proposed Maria da Silva, seconded Eric van Rongen) with minor corrections.

*Survey:* A survey on the EMF Project will be placed on the Project website.

*Funding:* a small number of countries have regularly provided money to the project. Others fund specific activities, and the Project would be happy to develop proposals for future activities with an associated budget. Additional funding will be essential to develop the RF EHC monograph.

*Future meetings:* Some forthcoming meetings are noted in the Progress Report. WHO would be happy to post on its website information on national meetings.

*Next IAC meeting:* There are possibilities to combine the next IAC meeting with another EMF meeting. One possibility is the ICNIRP/WHO/COST meeting on children (EMF and UV) planned for 16-20 May 2011 in Slovenia.

*Acknowledgements:* The Chairman thanked speakers and everyone else for participating, and thanked Bernard Veyret for the local arrangements and hospitality. Emilie van Deventer thanked all attendees for coming and participating, and thanked the French Ministry of Health and AFSSET for their support. Finally she thanked Art Thansandote for chairing the meeting and Bernard Veyret and Isabelle Lagroye for their contributions to the organization of the meeting, and Lisa Ravenscroft without whom nothing would happen.