International EMF Project

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WHO/ICNIRP/South Korean Government meeting
EMF biological effects and standards harmonization in Asia and Oceania
22-24 October 2001
Issues to be discussed

- WHO’s role in EMF
- Scope and structure of the project
- How WHO arrives at its recommendations
- Update on activities and outputs
- Recommendations to Member States
- Information provided by Project
**Scope and time scale**

- **EMF Project** established 1996 end in 2005?
- **EMF frequencies** 0 to 300 GHz.
- **Static fields** (0 Hz): Magnetic levitation trains, MRI imaging, DC electrolytic devices for materials processing in industry.
- **Extremely low frequency** (ELF) fields (>0 to 300 Hz): Trains for public transport (16 2/3 to 50 or 60 Hz, plus harmonics), any device using electric power (normally 50 or 60 Hz).
- **Intermediate frequency** (IF) fields (>300 Hz to 10 MHz): Anti-theft and security devices, induction heaters and VDTs.
- **Radiofrequency** (RF) fields (>10 MHz to 300 GHz): Mobile telephones or telecommunications transmitters, radars, video display units and diathermy units.
Collaboration

- International partners
  - WHO, UNEP, ICNIRP, ILO, IEC
  - IARC, NATO, ITU & EC
  - National partners >45
  - WHO collaborating institutions
    - USA, UK, Japan, Sweden & Germany
  - Independent scientific institutions
An International Advisory Committee has been established from representatives of the international and national collaborating agencies, and WHO collaborating institutions.
International Advisory Committee
Terms of Reference

- Provide oversight on the conduct of the Project.
- Review Project outputs
- Provide a forum for a co-ordinated international response on the health concerns raised by exposure to EMFs.
  - Biological effects
  - Health issues
  - Use of precautionary measures
  - Standards
INTERNATIONAL ADVISORY COMMITTEE

Membership

Members:
- Representatives of governments providing resources for Project
- Representatives of scientific collaborating organizations
- Representatives of WHO collaborating centres

Observers:
- Representatives of governments interested in supporting Project
- Representatives of independent scientific bodies
Role of WHO staff in EMF Project

- Facilitate the implementation of the programme agreed to by the International Advisory Committee
- Form part of the non-voting secretariat at all meetings and expert groups
- Compile minutes, fact sheets and reports of meetings published after comments by IAC and outside experts
- Give presentations summarising the conclusions of WHO meetings or expert groups
- Must ensure compliance with WHO’s conflict of interest policies (Committee membership, funding, etc)
International EMF Project

- provides forum for co-ordinated international response to EMF issues
- assesses scientific literature; makes status report on health risks
- identifies gaps in knowledge needing research to make better health risk assessments
- encourages focused research program
- Evaluates research results and publishes as WHO monographs
- Develops framework for an international standard
- Uses health risk assessments to facilitate internationally acceptable standards for EMF exposure
WHO EMF Project

Risk perception and communication
- Seminars and W/G Reviews

International scientific reviews
- Health Status Reports
- Research Gaps
- All scientific reviews completed

Standards
- Review of World Standards
- On web site end 2001

Environmental impact
- Review EMF Impacts on Environment

Information and training
- Home Page/Fact Sheets in Multiple Languages
  See www.who.int/emf

WHO Task Groups

Monograph in 2002-3

Scientific research database
See www.who.int/emf

WHO/IARC Task Group Reviews and Health Risk Assessments
- IARC ELF completed
- WHO ELF 2002
- IARC RF 2004?
- WHO RF 2005?

WHO and IARC Monographs
- IARC ELF being completed

EMF Management Programme
- Publication 2004

Global EMF Standard Framework

Documents for Environmental Impacts of Major Development Projects
- Conf. Proceedings published
- Scientific paper submitted

IAC

Training Programmes - Internet
- ELF on web site
- RF in 2002-3

Scientific research Co-ordination

National EMF Protection Programmes

Regional meetings

Research

Workshops

WHO Task Groups

IAC

WHO Task Groups

IARC ELF being completed

IARC RF 2004?

WHO ELF 2002

WHO/IARC Task Group Reviews and Health Risk Assessments
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- IARC RF 2004?
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Scientific research Co-ordination

Workshops

WHO Task Groups
WHO approach to EMF research for health risk assessment

- Develop “best possible” database needed by WHO/IARC to assess health hazards?
- Review literature to identify research to fill gaps
- Replicate research suggestive of health consequence but not substantiated
- Promote research agenda to funding agencies
What are we trying to protect against?
WHO defines health as a state of complete physical, mental and social well-being, and not merely the absence of disease or infirmity.

Biological effects are measurable responses to EMF exposure, not necessarily hazardous.

Health hazard is a biological effect producing consequences outside the body's normal range of physiological compensation and is detrimental to health or well-being.

*Problem:* the public and media do not discern between biological and health effects.
Recommendations to Member States
EMF Protection of the Public

Recommendations to Member States

Address Health Issue
Mandatory
science-based standards

Address Public Concerns
Separate policy of voluntary
precautionary measures

Introducing ad hoc additional safety factors into science-based standards as a precautionary measure undermines 100’s of millions of $s of research for no apparent benefit to health

Questions raised….are the safety factors in international standards large enough to address the imprecision in the science? How uncertain is the science?
Voluntary measures

- Governmental/industrial/academic research program that leads to better health risk assessments
- Encourage manufacturers to keep exposures to the minimum needed for the technology
- Better risk communication
  - Target messages to audience
  - Honest and accurate information
- Public involvement in decision-making
- Siting facilities to minimise public exposure and concerns
EMF Project

The International EMF Project. Fact Sheet #181, Oct 1997
Physical properties and effects on biological systems. Fact Sheet #182, Oct 1997
Health effects of radiofrequency fields. Fact Sheet #183, Oct 1997
Public perception of EMF risks. Fact Sheet #184, Oct 1997
Mobile telephones and their base stations. Fact Sheet #193, June 2000
Video display Units (VDUs) and human health. Fact Sheet #201, July 1998
Extremely low frequency electromagnetic fields. Fact Sheet #205, Nov 1998
Radars and Human Health. Fact Sheet #226, June 1999
Cautionary Policies (WHO Backgrounder), March 2000
ELF fields and cancer Fact Sheet #263, October 2001
Environmental Hypersensitivity (in draft)
EMF Environmental Impacts (in draft)
Intermediate Frequencies (in draft)
Protection of the Public from EMF (in draft)

On home page: http://www.who.int/emf/ in multiple languages
Further information

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