

WHO-Workshop:
Base stations & wireless networks:
Exposures and health consequences
Geneva, 15 – 17 June 2005

**Necessities for the public acceptance
of mobile phone -
and wireless-infrastructure**

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P M I

NON PROFIT ASSOCIATION - MEMBER OF:

- **AUSTRIAN ENVIRONMENT UMBRELLA ASSOCIATION**

(member of EUROPEAN ENVIRONMENT BUREAU BRUXELLES)

- **AUSTRIAN EMF-STANDARD SETTING COMMITTEE**
- **WHO-EU-PREC. PRINCIPLE-W ORKING GROUP (Feb. 2003)**
- **BIOELECTROMAGNETICS SOCIETY BEMS**

Absence of insurance-coverage

Property devaluation

Environment. impacts?

Optical Impacts?

**S
A
R
?**

Study results

WHO-DEFINITION OF HEALTH:

„A state of complete physical, mental and social well-being and not merely the absende of disease or infirmity

Epidemiology?

Public-exposure-situation?

Absence of PUBLIC INVOLVEMENT during planning phase – democratic rights?

Two sciences?

Proof of exposure-minimization?

Long-term-effects? WHO-brochure...

Exposure-control, Monitoring 24h/24?

In case of claims?





CITIZENS ARE

NEITHER INVOLVED IN BTS-SITING

NOR HAVE THE RIGHT TO BE INFORMED
e.g. ABOUT THEIR (EXPECTED) EMF-EXPOSURE

INSURANCES AND RE-INSURANCES
IN GENERAL EXCLUDE COVERAGE OF EMF-
HEALTH-RISKS

PROPERTY DEVALUATION TO BE EXPECTED, ALSO
DUE TO OPTICAL IMPACT

ARE THE INTERNATIONAL STANDARDS

ICNIRP GUIDELINES (1998)

SUITABLE FOR INDUCING PEOPLE'S
CONFIDENCE



FACT IS.....
THAT ICNIRP-RECOMMENDATIONS 1998....

- SEEM TO CHANGE SECURITY-FACTORS
DEPENDING ON THE INDUSTRIAL
BUT NOT ON THE SCIENTIFIC REQUIREMENTS
- **DEFINE EVERYONE AS WORKER INSTEAD OF
THOSE WHO ARE PROFESSIONALLY EXPOSED**
- DEFINE BASIC LIMITS THAT CANNOT BE
MEASURED UNDER REAL-LIFE CONDITIONS

FACT IS.....
THAT ICNIRP-RECOMMENDATIONS 1998.....

EXCLUDE INTERFERENCES WITH OR EFFECTS
ON MEDICAL DEVICES....
such as metallic prostheses,

AND

ARE BASED ON SHORT-TERM EXPOSURE

AND

ALL AGREE THAT THESE LIMITS PROTECT AGAINST
SHORT-TERM ACUTE EFFECTS.

? privately ICNIRP-members answer that they never would accept to be exposed continuously to 5 or 10 W/m²?

WHO-BOOKLET FOR LOCAL AUTHORITIES:

„No standards-setting body has set exposure guidelines to protect against long term health effects, such as a possible risk of cancer.“

BUT

ANTENNA-NEIGHBOURS HAVE

LONG-TERM, CHRONIC EXPOSURE!

Areas of disagreement and issues that need to be addressed include:

What constitutes an established effect?

Are short-term immediate effects a sufficient basis for the derivation of guidelines?

What is the nature of basic interaction mechanisms between EMFs and the organism?

IAFF-

International Association of fire fighters:

Position on the Health Effects from RF/MW Radiation in Fire Department Facilities from Base Stations for Antennas and Towers for the Conduction of Cell Phone Transmissions:

„...today little is known about the levels of RF-exposure in the general population from sources such as mobile phones being used by oneself or other people, mobile phone base stations, and radio und television transmitters.“

....Prof. Bernhardt noted that the guidelines include „no consideration regarding prudent avoidance“ for health effects for which evidence is less than conclusive.

HISTORICAL BACKGROUND

Precautionary procedures have been developed in the past decades for substances that may be detrimental to health if incorporated through the skin, or by inhalation or ingestion.

These procedures are applied in a transparent and standardized way by health authorities, public health agencies and international organizations in order to protect the public from a potential health hazard.

However, no such procedures have been applied so far for electric, magnetic, and electromagnetic fields except for some local authorities, Italy and Switzerland.

(ICEMS Poster BEMS 2003)

By the early 1970s the World Health Organization (WHO) recognized the need for coordinated efforts to develop protective measures for non-ionizing radiation.

After extended collaboration a WHO/IRPA Task Group on Environmental Health Criteria for Radiofrequency and Microwaves issued the first document in 1981.

1984: Environmental Health Criteria for extremely low frequency fields (ELF)
1987: and magnetic fields.

It might be surprising that most of the problems pointed out in these documents have not been resolved yet

and that – while the scope of phenomena studied has been broadened – **there is still poor understanding of the basic interaction mechanisms between electromagnetic fields and the organism.**

In 1993 another WHO/IRPA task group prepared Environmental Health Criteria for electromagnetic fields in the range of 300 Hz to 300 GHz.

While maintaining some parts of the earlier documents, this volume has fully developed and utilized the **SAR** (specific energy absorption rate) concept for the derivation of exposure limits in the high-frequency range following essentially the concepts of IARC from 1984 and especially 1988 and the Institute of Electrical and Electronic Engineers (IEEE) from 1991 published 1992.

The precautionary approach prevailing in the WHO/IRPA document of 1981 has almost fully abandoned, fundamental statements like "SAR alone cannot be used ... for the extrapolation of biological effects from one frequency to another." (UNEP/WHO/IRPA 1981, p.45) have been neglected; however, the intention to give a fair appreciation of the literature is apparent throughout the volume. At the same time a new international commission originating from the IRPA/INIRC was founded as an independent NGO: the International Commission for Non-Ionizing Radiation Protection (**ICNIRP**).

This commission published in **1998** a very influential document issuing guidelines for limiting exposure to electric, magnetic and electromagnetic fields that later was taken over by the European Commission as a recommendation for their member states, **despite reservations of the EU Parliament.**

Nevertheless there is great variation in limit values applied in different countries, different rationale (eg. Italy, Switzerland) or basis (eg. China, Russia) for their derivation, and there is an ongoing harmonization activity also supported by the International EMF Project of WHO.

While ICEMS fully recognizes the difficulties in the derivation of limit values for EMFs it takes objection to a number of definitions and assumptions that have been made by ICNIRP and other standard setting bodies.

(ICEMS Poster BEMS 2003)

ROSS ADEY'S work....

- ...EMF-induced change in reaction time
- ...demonstration that ELF fields and separately RF radiation can produce very similar biological effects

ITALY:

Based on

- the Costitution art. 32
- the Precautionary Principle art. 174 – Treaty of Amsterdam/EC

DM 381/98 art.4, comma 1:

MINIMIZATION „as low as possibile to guarantee the service“

Legge quadro no. 36/2001 art.8, comma 6:

for the population and the workers

„I comuni possono adottare un regolamento per assicurare il coretto insediamento urbanistico e territoriale degli impianti e MINIMIZZARE l’esposizione della popolazione ai CEM“
...“ secondo le miglori tecnologie disponibili“

promuovere l’innovazione tecnologica e le azioni di risanimento

ITALY

DPCM 8.7.2003

Valore d'attenzione – obiettivo di qualità

6 V/m

FOR ALL THOSE AREAS

WHERE PEOPLE ARE MORE THAN 4 HOURS/DAY

LIMIT VALUE
FOR CHRONIC LONG-TERM EXPOSURE

e.g. Italy for areas
where people are more than...hours

garantees
that you can use mobile-phones = short-term exposure!

SOMETHING SIMILAR SHOULD BE DONE BY ICNIRP!

ITALY - ALTO ADIGE:

PROVIDERS HAVE TO PRESENT THEIR PLANNING ON 30 JANUARY OF EACH YEAR TO THE REGIONAL GOVERNMENT, TO BE DISCUSSED WITH THE COMMUNITIES

- UNFORTUNATELY THE PUBLIC IS NOT YET REALLY INVOLVED IN THE PROCESS
- APPROVED BY THE GOVERNMENT OF THE REGION
- LOOK FOR AGREEMENT WITH THE PROVIDERS

ISPESL

ISTITUTO SUPERIORE PER LA PREVENZIONE
E LA SICUREZZA DEL LAVORO – ITALY:

0,5 V/M in urban areas are possibile!

(Nota 7.1.2000 prot.n.17)

.....SALZBURG – AUSTRIA.....

EXPOSURE-MINIMIZATION BY

**AVOIDING BTS-INSTALLATION NEARBY/ON
KINDERGARDEN AND SCHOOLS**

**WHILE BTS-SITING ON RESIDENTIAL HOMES IS
NOT CALLED INTO QUESTION**



REALIZATION OF EXPOSURE-MINIMIZATION

**with Microcells and Picocells
instead of „warm cells“**



(www.arpa.emr.it -Valutazione dell'impatto ambientale per siti microcellulari in area urbana)

REALIZATION OF EXPOSURE-MINIMIZATION

via

WIRELESS HOMES;

W-LAN IN SCHOOLS

PUBLIC AREAS, HOTELS etc.

?

WLAN

to minimize the EMF-exposure,

- use connections with cables if WLAN and Bluetooth can be avoided**
- avoid installation of WLAN-accesses where people can stay for longer time (working places)**

WORKERS

FOR ALL POLLUTANTS LIMITS ARE DISTINGUISHED FOR

- 1) WORKERS WHOSE JOB IMPLIES EXPOSURES TO THE POLLUTANT AND
- 2) and OTHER WORKERS (= GENERAL PUBLIC).

ONLY FOR EMF

PROTECTION STANDARDS SUGGEST THE SAME LIMITS FOR WORKERS PROFESSIONALLY INVOLVED WITH EMF EXPOSURES AND ALSO THE OTHERS.

Letter to the WHO dated 31.01.2005

from

Alvaro Augusto A. de Salles,

Federal University of Rio Grande del Sul, Brazil –

approved at the 5th World Social Forum:

Subject: Framework to Develop Precautionary

Measures in Areas of Scientific Uncertainty

ALARA – ALATA

Health and environmental pollution policies...4 hours...

SAR

deadline to ind. for new technologies with lower health-risk

worldwide campaign discouraging use of mobiles by children

prohibit advertisement ...to children

case-studies must include other hazard agents which may synergistically affect human health.

ARGUMENTS FOR PUBLIC INVOLVEMENT:

e.g.

- WHO-definition of health
- German Federal Office for Radiation Protection
(Bundesamt für Strahlenschutz)

**LOW EXPOSURE-LEVELS
ARE
TECHNICALLY AND FINANCIALLY
ACHIEVABLE**

- MEASUREMENTS AND MONITORING
IN ITALY
- 3-YEAR MEASUREMENTS
IN STYRIA-AUSTRIA
- DIFFERENT LOCAL AGREEMENTS
e.g. Salzburg 2000, PARIS 2 V/m, etc.

CONSENS WITH CITIZENS IS POSSIBLE

e.g.

**ROUND TABLES IN SALZBURG FOR 2 YEARS
(PUBLIC RELATION AWARD 1998)**

ROUND TABLES IN VENICE

**AND OTHER LOCAL ROUND TABLES
AND PARTICIPATION- AND MINIMIZATION-
SOLUTIONS**

EXPOSURE-MINIMIZATION BY „INTELLIGENT SITING“

is possible

e.g. BAKOM - SWISS FEDERAL OFFICE
OF COMMUNICATIONS

USED THE RF-CALCULATION-SOFTWARE
in 2001/2002

TO COMPUTE RF-FIELDS EXPOSURE-
SITUATION IN SALZBURG/AUSTRIA

WITH EMF-EVALUATION-SOFTWARE

WE ARE ABLE TO

SIMULATE RF-EXPOSURE

CALCULATE EXISTING EXPOSURE

PREDICT FIELD DISTRIBUTION

WITH GREAT ACCURACY

**BTS-SITING MUST BE BASED ON.....
CONSENSUS PROVIDERS-LOCAL AUTHORITIES-PUBLIC**

1. **APPLICATION OF THE PRECAUTIONARY PRINCIPLE**
2. **AS QUALITY-CRITERON MINIMISATION TO THE MINIMUM NEEDED BY THE INDUSTRY TO MAINTAIN THE QUALITY OF THE SERVICE**
3. **PUBLIC- AND LOCAL AUTHORITY-INVOLVEMENT THE SITING-PROCESS**
4. INFORMATION ABOUT EXISTING AND EXPECTED EXP.-VALUES / COMPUTER-SIMULATION, INCL.EXISTING HF-EMF SOURCES.
5. **EXPOSURE-CONTROL - 24h-MONITORING**
6. TAKING ACCOUNT OF THE LOCAL-HEALTH-SITUATION
7. **CONSIDERATION OF DIFFERENT SITING-OPTIONS**
8. OPEN-MINDED DISCUSSION ABOUT TECHNICAL SOLUTIONS (MICROCELLES, FLAT-STRIPS....)
8. **PUBLICATION OF EXPOSURE-DATAS VIA INTERNET**
9. **PUBLIC AND NATIONAL DATABASE**
10. **COLLECT CITIZENS-REPORTS ABOUT WELLBEING-PROBLEMS**
11. SOLVE THE INSURANCE-PROBLEM
12. GOOD VISIBLE PUBLICATION OF SAR-VALUES ON CELLPHONES

THANK YOU!

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