

**National Report: Hungary**  
International EMF Project, 10<sup>th</sup> International Advisory Committee meeting  
2005 June 13-14, Geneva

## **1) General research activities related to EMF health**

There is no National EMF Project in Hungary. The volume governmental support for EMF research is limited. There are some projects supported by the government and institutions:

- Genotoxic studies on EMF: Evaluation of DNA damage by alkaline Comet-assay in-vitro on human lymphocytes exposure to ELF magnetic field or RF 900/1800 MHz GSM-like electromagnetic field (*National Research Institute for Radiobiology and Radiohygiene - NIRR*)
- ELF-EMF exposure survey of residential transformer stations and solution for mitigation (*NIRR*)
- Study of the effects on blood-brain-barrier (BBB) on rats, in-vivo exposed to RF as replication of Salford's investigation. This study is planing to extend to UMTS RF signal.
- Participation in the EMF-NEAR "Exposure at UMTS electromagnetic fields: Study on potential adverse effects on hearing" EU project (*NIRR, supported by EU*).
- RF exposure survey around base stations (*NIRR* and partially supported by the mobile operators). Personal RF frequency selective dosimetry has been started recently.
- Participation and initiate the international TRANSEXPO project: Study of Childhood Leukemia and Residences Adjacent to Transformer Stations. (*NIRR with collaboration the Medical Univ. of Budapest*)
- Study the possible effects of *in vivo* 900/1800 MHz GSM-like microwave exposure on male reproduction by evaluate the serum testosterone level and red blood cell count of male mice (*National Institute of Chemical Safety – KBI*)
- E-field probes development for RF dosimetry by thick film method (*Hungarian Academy of Sciences Research Institute for Technical Physics and Materials Science – MFA*)
- Instantaneous, *in vivo* effects of GSM-like pulsed 900 MHz RF irradiation on spontaneous, neural activity of medial prefrontal cortical neurons in the rat. (*NIRR, Univ. of Pécs*)

## **2) New policies and legislations regarding EMF exposure**

2.1. The *Ministry of Health, Social and Family Affairs* released a new ordinance on the public limits of EMF exposure between 0 Hz- to 300 GHz in 2004. The number of ordinance: 63/2004 (VII.26) ESzCsM Ordinance. The Ordinance is mandatory. Published in 26.07.2004, put in force 04.08.2004.

The Ordinance fully adopted the 1999/519/EC recommendations. The limits are the same as the 1999/519/EC recommendations (basic limits, and reference levels), using the same figures. The new Ordinance includes the limits only for the public.

The government has withdrawn the former Ordinance.

Comment: The former *Ordinance* issued in 2000 on the reference levels of RF emitted by the *radiocommunication masts* (base station) including more strict reference levels than issued by the EU Recommendation in the frequency range from 30 MHz to 60 GHz (*32/2000 Ordinance by Minister of Health*).

2.2. The *Hungarian Ministry of Informatics and Communications* released recently a modification in one of the ordinance relevant to the radio permission of the implementation new radio stations (i.e. base stations, broadcast systems etc.) According to the new modification any new radio station need an expert report of radiohygiene when the radiated RF power emitted by the *stations higher than 400 W ERP toward any direction* and the stations will be planned in the residential living and/or resting area. The ordinance was published and put into power in 2003 April.1. (revised in 2004 as the *6/2004 Ordinance of Ministry of Informatics and Communications*).

## 2.3 Planned initiatives:

The limits for workers will be put in an ordinance according to the 40/2004 EU Directive within 2 years. Until the limits of 40/2004 Directive will be used, but not mandatory.

## 3. Areas of public concern and national responses

The public concern is continuously permanent. The main issue is the mobile base stations. The second topic of the public concerns is the electric power transformers. In Hungary it is typical that 10/04kV transformer stations are installed in the basement or ground floor of multi-storey apartment buildings. Magnetic fields up to several tens of  $\mu\text{T}$  have been measured in apartments or offices located close to transformers. Residents are concerned about the possible health effects of magnetic fields

## 4) New public information activities

The *Ministry of Health, Social and Family Affairs*, the Ministry of Environment and Water and the *Ministry of Economic Affairs and Transport* published a short leaflet about the public exposure to RF emitted by mobile base stations.

The *National Public Health Centre- National Research Institute for Radiobiology and Radiohygiene* (NIRR) is in active on the EMF survey measurements in the environment and living areas. The places where any survey or expert report have been released are on the Internet website of the institute. The institute has more than thousand measurement sites mainly around mobile base stations.

Many information have been released about the EMF and health toward the electronic and written media.

A poster for children distributed to, and displayed in Hungarian schools website support (<http://www.szezam.hu/hitemobil/>) by an expert NGO.

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