

**WHO International EMF Project
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Summary of National Activities

Research

The Australian research program is managed by the National Health and Medical Research Council (NHMRC), has funding of \$0.7m pa and a charter to conduct research into EME issues of relevance to Australia and to complement overseas research activities.

Funding of all projects is based on scientific merit and a consideration of recommended priorities for EME research identified by the WHO. There have been three completed funding rounds. The third round provided funding for a Centre of Research Excellence in Radiofrequency EME with funding of \$0.5m pa over five years. The Australian Centre for Radiofrequency Bioeffects Research has been established at the RMIT University in Melbourne. Seven doctoral students have already been enrolled for Centre projects.

Ongoing research projects (from the 1st and 2nd rounds) include”

- The Australian part of the Interphone Study;
- Investigation of human physiological responses (brain reactions, sleeping patterns, biological clock) to exposure to mobile phone type radiation; and
- Investigation of the effects of radiofrequency radiation from long term mobile phone use on vision and hearing (part of the large-scale Blue Mountains Eye Study).

Governmental actions

The Government continues to provide \$1m pa for the EME Program. This program supports research into and provides information to the public about health issues associated with mobile phones, mobile phone base stations and other communications devices and equipment. The EME program is coordinated by the Committee on Electromagnetic Energy Public Health Issues (CEMEPHI) which is run by ARPANSA and includes representatives from other government departments and authorities. Research is an important component of the program.

Standards

RF

ARPANSA *Radiation Protection Standard for Maximum Exposure Levels to Radiofrequency Fields 3 kHz to 300 GHz*. Published 2002 and available at: www.arpansa.gov.au/rps_pubs.htm
Telecommunications are regulated by the Australian Communications Authority - a new standard based on the ARPANSA Standard, titled: 'Radiocommunications (Electromagnetic Radiation - Human Exposure) Standard 2003' can be downloaded at:
www.aca.gov.au/aca-home/legislation/standards/index.htm#radiocommunications

Code of Practice

The Australian Communication Industry Forum Code for the Deployment of Radiocommunications Infrastructure (available at www.acif.org.au/publications/codes) will be revised during the coming year. The Code specifies the best contemporary practices in the areas of design, installation and operation of radiocommunications infrastructure and requires the application of a precautionary approach to the deployment of infrastructure and contains obligations on carriers to consult.

ELF

An ARPANSA WG was established in 2003 to draft a new ELF standard (by late-2004).

EME field measurements

Radiofrequency fields

An ARPANSA survey of radiofrequency (RF) electromagnetic energy (EME) emissions around 60 mobile phone base stations at capital city locations in Australia has been conducted. Measured base station RFR levels at specified distances from the antenna have been compared with the ARPANSA RF exposure limits and predicted levels. Environmental levels of RFR within 500 m of the nominated base station's location were also measured. A measurement protocol based on the measurement of the control channel/pilot signal was developed (similar to that used in the previous survey). Analysis is underway and results will be published during late 2004. On average, measurements at the location of the highest predicted level were 0.02% of the limits. Predicted levels were always higher and generally more than 30 times higher than the measured level. Predicted levels could be considered to be a reasonable surrogate for measurements when exposure levels around base stations are being considered for compliance requirements.

Extremely low frequency fields - State survey

Funding for a survey to identify the distribution of residential magnetic field levels in Australia was not obtained so a survey in Victoria will be undertaken in the first instance. The objective is to determine the distribution of residential magnetic fields. An attempt to relate the measured field with characteristics of the home and environment will also be made. A pilot study is currently underway to finalise the measurement protocol and to determine the most efficient means of sampling and home recruitment.

EME Complaints Registry

The proliferation of sources emitting electromagnetic radiation (EMR) in recent times has seen a growing concern among the general public regarding possible health effects associated with exposure to these type of fields. A centralised complaints mechanism has been established for people to report adverse health effects associated with EMR (0-300 GHz) exposure. In a year of operation only 23 reports have been received. Exposure sources include ELF (11 reports), mobile phone base stations (2), communications infrastructure (5), mobile phones (6), cordless phones (1), UHF 2-way radios (1), HV power lines (3), electricity industry (1), radar (1), welding (1) and MRI (1). Health effects reported include body pain, obsessive compulsive disorder, cyst above ear, loss of memory, and hypersensitivity to EMR, including headaches, nausea, dizziness, eczema, insomnia, lethargy and depression.

Public concerns

Main concerns are:

- mobile phone base stations - undiminished demand to speak at public meetings, especially protesting 3G installation
- Children and mobile phones
- ELF - HV powerlines and residential exposure

Public information

New fact sheets in the ARPANSA CEMEPHI EME series are available on the ARPANSA web site at: www.arpansa.gov.au/eme_pubs.htm

- FS 1: Electromagnetic energy and its effects
- FS 2: Government action on electromagnetic energy public health issues
- FS 3: Australian research into EME
- FS 4: The ARPANSA RF exposure Standard
- FS 5: About mobile phones
- FS 6: About mobile phone networks
- FS 7: What about using a mobile phone while driving
- FS 8: Potential interference of mobile phones with pacemakers, hearing aids & other devices
- FS 9: Australian Research into EME
- FS 10: What about broadcast towers and are there any health effects
- FS 11: Mobile phones and children
- FS 12: About 3G and health (currently being drafted)