



## New ICNIRP EMF exposure guideline released

14 December 2010

The [International Commission on Non-Ionizing Radiation Protection](#) <sup>[1]</sup> (ICNIRP) has released its new exposure guidelines for electric and magnetic fields in the 1 Hz to 100 KHz frequency range, including 50 Hz power frequency fields. ICNIRP advises the World Health Organization on EMF exposure guidelines and its recommendations are followed by many countries, for example countries of the European Union and New Zealand.

The new ICNIRP exposure guidelines (reference levels) are:

50 Hz	Electric	Magnetic
Occupational	10 kV/m	10 000 mG or 1 mT
General Public	5 kV/m	2000 mG or 200 $\mu$ T

These new guidelines replace the previous exposure guidelines issued by ICNIRP in 1998. At 50 Hz while the electric field levels remain essentially unchanged, the magnetic field exposure levels have doubled.

The basic restrictions from which the exposure limits are determined are derived from induced electric fields limits. This is the same approach used for the IEEE ELF Standard of 2002 and for the draft ARPANSA ELF Standard. It is not clear at this stage whether the release of the ICNIRP Guideline will have any effect on the draft ARPANSA Standard which is nearing finalisation and will become the relevant standard for Australia.

The ICNIRP Guidelines are based on established neurological effects based on exposures to short-term (acute) exposures to very high field levels. However, ICNIRP also emphasizes that all the relevant EMF research was reviewed and taken into consideration, including epidemiology and laboratory studies involving long-term lower level exposures, such as the research on EMF and childhood leukemia. With regard to this research, ICNIRP concluded that there was *no compelling evidence* of a causal relationship between power frequency EMF and chronic diseases, such as childhood leukemia or other cancers. The ICNIRP Guideline does not include precautionary measures but refers to risk management advice in other World Health Organization documents.

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Article printed from Energy Networks Association: <http://www.ena.asn.au/?p=6538>

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